AEROSOL AGE

THE MAGAZINE OF PRESSURE PACKAGING

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The Esquire Story

Propellant Toxicity

Aerosol Inhalation Therapy

Pressure Filling Metered Valves

Aerosol Golf Tournament

Drop Testing Plastic Containers

"Casting Into" Aerosols

SEPTEMBER, 1960

F
F

sales curves stay healthy

for

aerosol products

packaged with

R A C

Customized spray valves

Sales success in aerosol products depends as much on the performance of the package as on the quality of the product itself. How important, then, to exercise *extra care* in the selection of the spray valve—the most important factor in pressurized packaging performance!

A-R-C Spray Valves offer you the industry's *widest choice* for every application. *Three* basic types—expanded into hundreds of specific variations with stock components—give you the *exact valve* for your particular requirements . . . at no premium in cost.

To ensure successful sales of *your* aerosol package, specify an A-R-C "Customized" Spray Valve—meticulously engineered and manufactured to the highest quality-control-standards.

Write, wire, or phone today for information on A-R-C "Customized" Spray Valves for your product or problem

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NO SEAMS at the top, bottom or sides to collect dust, dirt or corrosion . . . no side seams to rust, leak or come apart. VICTOR containers are *EXTRUDED,* all *ONE PIECE.*

ALUMINUM, the magic metal that makes your Aerosol container a superior one, because Aluminum is practically defect free, light, strong, easily formed into any size or shape.

LIGHTER WEIGHT to make shipping less expensive, handling easier, storing higher, lighter weight filled for easy mass displaying on counters, in stores, in show windows.

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PERFECTED AND AVAILABLE NOW from our high speed, automated, low-cost production lines in large quantities, competing with any other metal, with any other brand.

EXPERIENCE? *More than 200,000,000 aluminum containers a year for more than 30 years, for the finest brands in the world.*

UNITED STATES CAN CORPORATION
Subsidiary Of
VICTOR METAL PRODUCTS CORPORATION
Newport, Arkansas

THIS MONTH'S COVER

Corday, Inc., New York perfume marketer, has just introduced "The Five Hundred", an Emson valve-equipped metered dispenser holding 500 metered sprays. Manufacturer of aerosol colognes and perfumes since 1954, the company employs pressure rather than cold filling. An explanation of how this and other companies fill through a metered valve is provided in an article titled "A Guide to Pressure Filling through Metered Valves" on page 32.

SEPTEMBER, 1960 VOL. 5, No. 9

AEROSOL AGE

The magazine of pressure packaging

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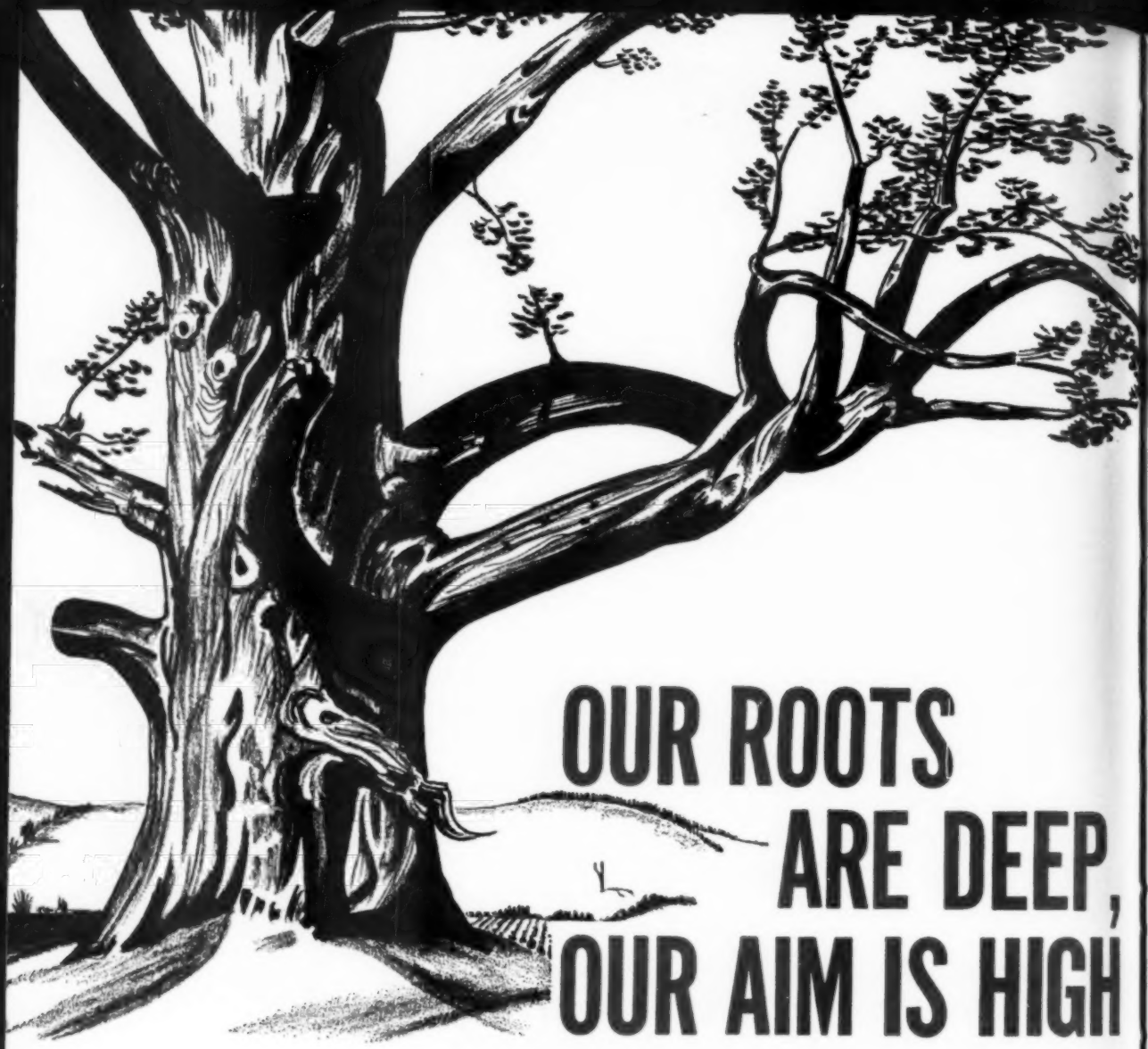

OUR ROOTS ARE DEEP, OUR AIM IS HIGH

but Valves don't grow on trees

Some fifteen years ago, the aerosol industry was born. Shortly after, the Precision Valve Corporation began. As the industry grew, Precision did too, in research, in discovery, in development.

Today, with over 500 employees and more than 60,000 square feet of manufacturing space devoted to over 10,000 different combinations of specifications for aerosol valves, Precision works with the industry to create and develop new aerosol designs to improve current procedures.

Now, on the threshold of further expansion, Precision rededicates itself to serving the aerosol industry and its customers. A major portion of Precision's new plant program will be directed toward research and development; its modern production facilities further improved; its friendly hand extended and dedicated to helping everyone.

Yes, Precision's roots are deep . . . its aim high!

PRECISION VALVE CORPORATION • 700 NEPPERHAN AVENUE, YONKERS, N. Y.

Fairfield Facts

CHEMICAL EDITION ★ ★ ★

SAFETY, SYNERGISM AND SALES APPEAL
THAT'S BUTOXIDE!!

The most extensive laboratory and field tests ever conducted on an insecticide by any company proved piperonyl butoxide's unique low order of toxicity which resulted in tolerances and official clearances not yet given to any other insecticide and its use with pyrethrins. Rats were fed piperonyl butoxide with all the food that they consumed from time of weaning through the normal lifespan and through three successive generations. Amount of chemical (right) is mixed with rat's weekly food ration contained in glass beaker.

TESTS PROVE BUTOXIDE'S LOW TOXICITY

Years of testing insecticide chemicals in Fairfield's research laboratories prove butoxide's unique low toxicity.

In addition, chronic feeding studies were conducted with rats, dogs, goats and monkeys. Cattle were sprayed twice daily throughout the season with butoxide and pyrethrins for four years. Not a trace of butoxide appeared in samples of the cattle's muscle, fat or milk. This resulted in clearance for use of butoxide and pyrethrins on dairy animals.

Laboratory tests made 14 years ago showed DDT's oral LD50 for rats is 200 mg/kg. At the same time the oral LD50 of undiluted piperonyl butoxide for rats was found to be approximately 8,750 mg/kg. Thus, towards rats, Fairfield's butoxide was only 1/43rd as toxic as DDT. By the time the toxicological studies were completed, it was found that the MLD50 for butoxide greatly exceeded the earlier reports. More recent work completed on chronic tests with piperonyl butoxide, completely satisfied the federal regulatory authority for their tolerances and clearances. At the present time all tolerances are based on chronic feeding tests.

For the formulator and manufacturer, Fairfield's butoxide, thus, plays an important role in producing insecticides with greater safety and salability... whether they are products for home, farm or industry. Consult your local Fairfield representative for further information or write today to Fairfield sales headquarters.

Fairfield Development Boosts Insecticide Performance

Butoxide, the best known and the most famous of all insecticide synergists, is a Fairfield research development. It gives insecticide formulators and manufacturers a more effective product...and it saves them money.

Piperonyl butoxide has the unique ability of tremendously increasing the insect killing power of certain chemicals.

For example, 0.125% by wt. of pyrethrins—though seldom used alone today—when applied against houseflies has a mortality of 43%. Cost is approximately $0.07 per pound.

But then add Fairfield's piperonyl butoxide and see what happens. A combination of 0.03% pyrethrins and 0.25% piperonyl butoxide applied against houseflies produces a striking 82% mortality. Cost of the butoxide and pyrethrins combination is $0.03 per pound. Quite a difference in both effectiveness and in price—*doubled performance at half the cost!*

The surging increase in effectiveness is the result of synergism, an action that takes place inside the insect's body. It produces the remarkable kill required in a popular, fast-selling insecticide.

There are other advantages too. Piperonyl butoxide is not only stable, but it acts as a stabilizer for certain other chemicals by reducing the effects of light, air and heat. It screens out deteriorating ultra-violet rays, thus, prevents deterioration of pyrethrins.

And because it is an acid acceptor, it retards decomposition and polymerization of pyrethrum. Since butoxide is also a solvent, it generally makes the addition of other solvents unnecessary —an important consideration when an odor-free product is desired.

And butoxide's synergizer-stabilizer role applies whether the chemical is pyrethrins, allethrin or rotenone.

What this all means is that butoxide puts greater effectiveness into a product and makes it last longer—on the shelf and after it has been applied by the user.

Putting Ideas to Work

FOOD MACHINERY AND CHEMICAL CORPORATION

Fairfield Chemicals

Sales Headquarters

441 LEXINGTON AVENUE, NEW YORK 17, N.Y.

Branches in principal cities. In Canada: Natural Products Corporation, Montreal and Toronto.

HELP IN A HURRY
comes with Du Pont FREON® Propellents

Need technical service to help solve a production problem . . . advice on formulations for a new aerosol product? Get in touch with your Du Pont Representative pronto! He'll see to it that you get the help you need as fast as possible. It's a service you can always count on when you use high-quality "Freon" propellents!

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PROPELLENTS

BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*

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Indeed we are busy – and that means business is *good* – but we're never too busy to tackle any new problem. Old accounts working on new products ... new accounts being availed of our special facilities ... these keep our large and experienced staff constantly on the alert – constantly devising fresh approaches to the age-old problem of making the customer's finished soap, toiletry or household specialty more salable through the use of attractive scent. Our success in doing this for numberless others is our best assurance that we can do it equally well for you. Why not call in our representative or a member of our technical staff for consultation?

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INDUSTRY MEETING CALENDAR

Chemical Exposition U.S.A., 1960, Statler-Hilton Hotel, New York City ..... **Sept. 3-15**

Society of Cosmetic Chemists, N. Y. Chapter, Hotel George Washington, New York..... **Sept. 7**

Society of Cosmetic Chemists, annual seminar, The Drake Hotel, Chicago. ..... **Sept. 15-16**

Chemical Specialties Manufacturers Association, Second Golf Outing, Medinah Country Club, Medinah, Ill. ..... **Sept. 20**

Chemical Specialties Mfrs. Assn., Meeting of Board of Governors, Division Executive Boards, and Committees, Hotel duPont, Wilmington, Del...... **Oct. 3-5**

Society of Cosmetic Chemists, N. Y. Chapter, Hotel George Washington, New York..... **Oct. 5**

French Packaging Institute, First International Packaging Machinery Show, Paris, France..... **Oct. 14-23**

Interkama, 2nd International Congress and Exhibition for Instrumentation and Automation, Dusseldorf, Germany ..... **Oct. 19-26**

Canadian Manufacturers of Chemical Specialties Association, 3rd annual convention, Queen Elizabeth Hotel, Montreal... **Oct. 24-26.**

National Paint, Varnish and Lacquer Association, 73rd annual meeting, Drake Hotel, Chicago..... ..... **Oct. 27-29**

Packaging Institute, 22nd annual national packaging forum, Statler-Hilton Hotel, New York..... ..... **Oct. 31-Nov. 2**

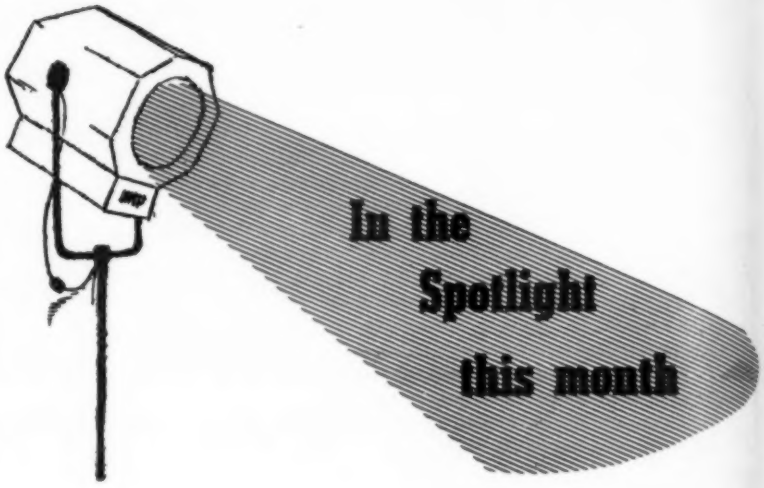
Society of Cosmetic Chemists, N. Y. Chapter, Hotel George Washington, New York..... **Nov. 2**

Toilet Goods Association, scientific section, fall meeting, Waldorf Astoria Hotel..... **Nov. 30**

Chemical Specialties Manufacturers Assn. 47th annual meeting, Hollywood Beach Hotel, Hollywood, Fla. ..... **Dec. 3-9**

Chemical Specialties Manufacturers Association, Meeting of Board of Governors, Division Executive Boards and Committees, Hotel Peabody, Memphis, Tenn.
March 8-9, 1961

National Packaging Exposition and National Packaging Conference of American Management Association, Exposition Center, Chicago..... ..... **April 10-13, 1961**



- **Aerosols for Esquire** . . . How much of an impact is pressurized packaging making on shoe polishes and allied products? To find the answer, **Aerosol Age** reports on an interview with two key men at Knomark Manufacturing Co. who probably know as much as anyone on the subject. Story and pictures begin on page 22.

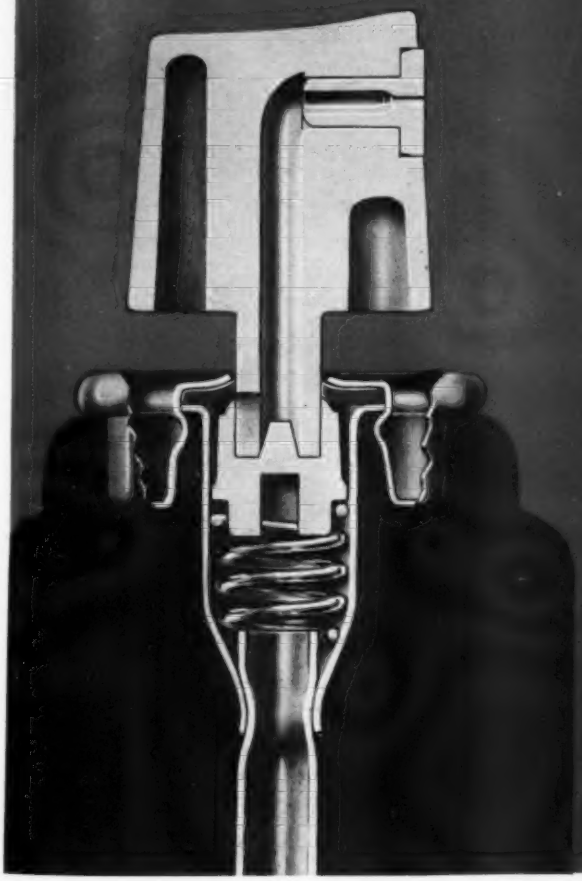
- **The Toxicity of Aerosol Propellants** . . . A topic that has been skirted in contemporary aerosol literature is given a detailed discussion, on page 25, by two DuPont research chemists.

- **Advice for the Prospective Aerosol Marketer** . . . Where should the new aerosol marketer go for general technical information, product development, and other vital considerations in the success of his product? On page 30 there begins a round-up of opinions from prominent aerosol people on where the neophyte marketer should look for help in these areas.

- **A Guide to Pressure Filling Metered Valves** . . . Philip Meshberg, a pioneer in the design and production of metered valves, writes on how these valves can be filled on production **pressure** filling lines. This month's cover story begins on page 32.

- **New Food Product is Readied for National Marketing** . . . A product which could constitute a major breakthrough in the pressurized food field is the first entry of a company new to the aerosol field. Story appears on page 43.

ANATOMY OF AN AEROSOL VALVE



1. Pressure fills fast because it does not fill through metering orifices.
2. All metering orifices in spray head easily accessible for cleaning.*
3. 360° at spraying surface—twist top.
4. No small orifices drilled in metal parts.*
5. Curved surface on spray button reduces finger fatigue.
6. Spray heads easy to apply after pressure filling.
7. Delivery tubes swedged on—not slipped over—valve body.*
8. Excessive swelling of gasket not detrimental to operation of valve.
9. Spray pattern can be varied completely by changing only spray head.
10. No dissimilar metals used in valve parts.

RESULT: ASSURES FASTER, TROUBLE-FREE FILLING, AND PRODUCES UNIFORM, MISTIER SPRAY PATTERNS

Only Newman-Green gives you *all* these features and advantages in an aerosol valve. How about service? It's complete at Newman-Green . . . whether your order is large or small. Complete from engineering consultation and design . . . all the way to manufacturing and prompt delivery of your valves.

For the most dependable valves and most reliable service . . . for aerosol valves that spark consumer acceptance . . . contact your Newman-Green sales representative today. He'll be glad to help you solve your aerosol packaging problem.

*Exclusive Newman-Green features.

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Europe's Most Advanced

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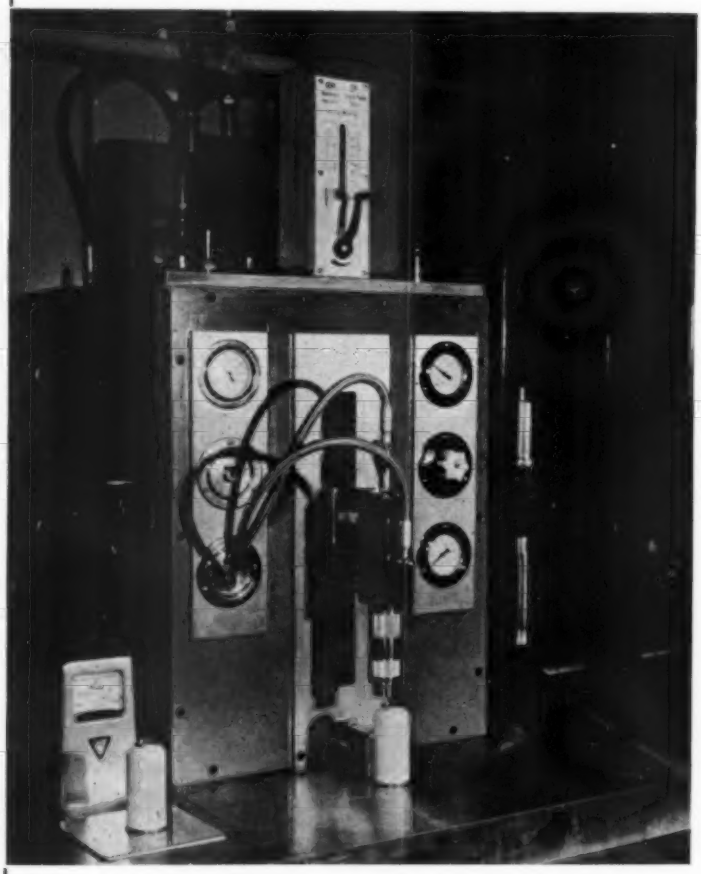
For all production requirements (small, medium, large)



- Fully automatic — up to 40 units per minute.
- Semi-automatic single machines — up to 30 units per minute (product filler, valve clincher, propellant charger).
- All equipment is fully pneumatically operated. No electrical controls or connections. The ultimate in safety.

Also offered are all auxiliaries, propellant pumps, accumulators, purgers, unscrambler tables, conveyor tracks, coders, tank type or fully automatic magnetic chain link belt test baths for semi-automatic or fully automatic lines.

Our production machines and laboratory units are in world-wide operation.

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Druk-Pak Inc.
36, Merkurstrasse
Zurich 7/32, Switzerland

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Lavender	DH-66
Cologne	DH-111
Cologne Bouquet	DH-117
Carnation	DH-131
Cedar Wood	DH-132

COLOGNES — PERFUMES

Cologne	DH-23
Bouquet	DH-28
Floral	DH-57
Lavender	DH-66
Lilac	DH-72
Floral Cologne	DH-83
French Oriental	DH-87
French Bouquet	DH-90
Cologne	DH-111
Jasmin Bouquet	DH-123
Mist Bouquet	DH-125
Mist Bouquet	DH-130
English Lavender	DH-133
Oriental Bouquet	DH-138
Sandalwood	DH-149

HOUSEHOLD & AIR FRESHENER SPRAYS

Cologne	DH-23
Siberian Pine	DH-29
Pine Wick Type	DH-30
Xmas Tree Pine	DH-31
Meadowsweet Bouquet	DH-34
Bouquet	DH-41
Lavender Bouquet	DH-43
Rose	DH-55
Orange Blossom	DH-59
New Mown Hay	DH-69
Spice	DH-74
Pine Virgin	DH-112
Cool Mint	DH-113
Spice Lavender Bouquet	DH-129
Carnation	DH-131
Medicinal	DH-139
Cool Pine	DH-144
Lavender Bouquet	DH-150

HAIR LACQUER PVP

Cologne	DH-23
Rose	DH-55
Orange Blossom	DH-59
Floral Bouquet	DH-79
French Oriental	DH-87
Oriental	DH-103
Cologne Bouquet	DH-117
Carnation	DH-131

SHAVE CREAMS, SHAMPOOS, SOAPS

Spice	DH-40
Lavender Bouquet	DH-44
Oriental Bouquet	DH-54
Rose	DH-55
Spicy Floral Bouquet	DH-56
Lilac	DH-72
Bay Rum	DH-89
Lemon	DH-94
Carnation	DH-131
English Lavender	DH-133
Lavender Bouquet	DH-150

PHARMACEUTICALS

Spice	DH-40
Medicinal	DH-70
Bay Rum	DH-89
Lemon	DH-94
Lilac Bouquet	DH-95
Jasmin Bouquet	DH-123
Floral Bouquet	DH-147

CREAMS, LOTIONS, COSMETICS

Cologne	DH-23
Spice	DH-40
Lavender Bouquet	DH-44
Oriental Bouquet	DH-54
Rose	DH-55
Orange Blossom	DH-59
Lavender	DH-66
Floral Bouquet	DH-76
Lemon	DH-94
Lily Muguet	DH-102
Lavender	DH-119
Carnation	DH-131
Cologne	DH-142
Floral Bouquet	DH-147

MOTH & INSECT SPRAYS

Siberian Pine	DH-29
Cedar Balsam Pine	DH-33
Violet	DH-42
Spicy Mint	DH-50
New Mown Hay	DH-69
Spice	DH-74
Para Odor	DH-122
Jasmin Bouquet	DH-123
Cedar	DH-127
Cedar Wood	DH-132
English Lavender	DH-133
Lavender Bouquet	DH-150

Synfleur offers this comprehensive line of perfumes *especially* developed for aerosols. Synfleur's ability to create the finest perfumes for special applications dates back to 1889. For this reason you can be confident that the perfumes listed here are absolutely perfect for your aerosols. High ranking in consumer preferences, Synfleur perfumes are sales-winning fragrances. You can be sure that they will keep your product sold, too.

If you have a special problem, Synfleur's extensive facilities and technical skills are at your service. Conferences are strictly confidential. If you need additional information, write us. You can expect a quick reply to your inquiries.

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VCA PERFORMANCE

PAYS OFF AGAIN!

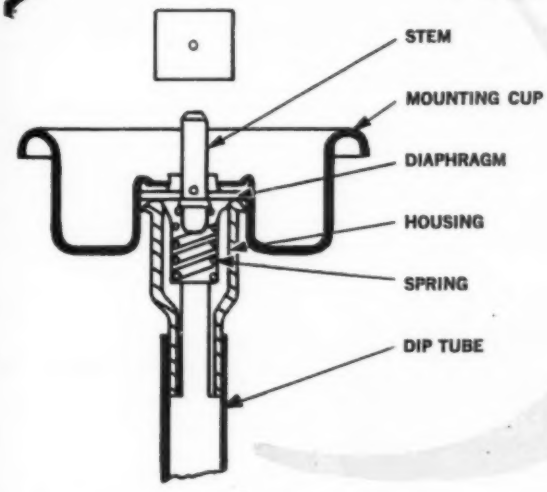
Star-Mist, a new Instant Spray Starch, by W. W. Stewart & Co., with its fine, soft spray mist, dampens and starches with an *even coverage*, exactly where it is needed.

Star-Mist is just another in a long line of successful national brand name aerosols that feature the outstanding valve design and quality of manufacture, for which VCA is internationally known.

It's proof again, that VCA valves, made to exacting standards...embody the refinements that provide an extra measure of dependability; the only kind of performance that pays off in immediate, profitable customer acceptance.

The VCA B9FG piston-action valve and mechanical break-up button combination used with Star-Mist, that sprays a perfect cone for safe, easy, economical delivery, is a *natural* for all water base products.

Ask for samples and prices, or send specifications for an immediate answer to your valve problem.



VCA INCORPORATED

CSMA

VALVE CORPORATION OF AMERICA, Inc.
1720 Fairfield Ave. • Bridgeport, Conn.

The contract packager had the answer... *another success story from the ISOTRON file.*

Pressure-Packed Profits "In the Bag"

Milady's bag is an excellent profit target . . . especially to marketers of tiny aerosol cosmetics. If you're interested, consult Strouse, Inc. of Norristown, Pa., where technical know-how and unique, specialized equipment assure you of economical, highest-quality packaging of your product in appealing, purse-size aerosols.

Always an innovator, President Frank Strouse found existing equipment unsuitable for his exacting standards and designed his own. The result: an automated high-speed cold filling line that can load all types of tubes or bottles with exceptionally well finished crimped valves, precision metering of ingredients and every container bath checked. Other Strouse-designed lines in the firm's two plants handle a wide variety of other products. Backing up production are modern research and quality control laboratories.

Contract packagers like Strouse, Inc. can handle your entire aerosol production, from formulation to packaging and shipment to customers. They give expert advice on the proper container, valve and propellent for your product. More and more, packagers specify ISOTRON®...the extra-pure, extra-dry, factory-sealed propellents that power scores of outstanding products.

ISOTRON—*The Key to Modern Living*

Pennsalt Chemicals®
ESTABLISHED 1850

Isotron Department
PENNSALT CHEMICALS CORPORATION
Three Penn Center
Philadelphia 2, Pa.

1960 AEROSOL PACKAGE CONTEST

Sponsored by the Aerosol Division,
Chemical Specialties Manufacturers Association

Products may be entered in any of the following categories:

1. *Automotive Products*
2. *Insecticides, Repellents and Moth Proofers*
3. *Room Deodorants*
4. *Paints, Enamels, Other Protective Coatings, and Paint Remover*
5. *Other Household Products (snow, polishes, glass cleaner, rug shampoo, water repellents, etc.)*
6. *Shave Products*
7. *Hair Preparations*
8. *Perfumes, Colognes, and Toilet Waters*
9. *Other Personal Products (dentrifices, shampoos, body deodorants, sun tan preparations, etc.)*
10. *Food Products*
11. *Horticultural Products*
12. *Medicinal and Pharmaceutical Products*
13. *Veterinary and Pet Products*
14. *Industrial Products*
15. *Foreign Products*

- All entries will be made in the name of the brand owner or marketer. The product must be on the market and have been *freely offered for sale prior to Sept. 1, 1960.* Contract fillers are urged to enter packages for their customers, but the vendor's name must be on form as required. Entries should be made only with permission of vendor and notification of any award will be sent to the vendor with the name of the individual furnished.
- Entries will close Oct. 15, 1960. All entries sould be sent as soon after Sept. 1, 1960, as possible to the Aerosol Awards Committee at the CSMA office, and should comprise one completely *assembled empty* container with attached tag showing (a) name and address of the brand owner; (b) class in which entry is made by number.
- *One completed entry blank must be sent for each package entered.* Additional entry blanks will be sent promptly on request.
  Counter displays, set up boxes, literature, etc., should not be sent.
- Only *one* entry may be made by any marketer or brand owner in any *one class,* but entries may be made in as many classes as desired by each.
- Entries are open to *any aerosol brand owner or marketer,* anywhere and are *not* restricted to members of CSMA.
- There are no entry fees or other charges to entrants.

Awards will be announced at the 47th annual meeting
of the CSMA, Dec. 5-8

For further information, complete rules, and entry blanks, write to:

CHEMICAL SPECIALTIES MANUFACTURERS ASSOCIATION
AEROSOL AWARDS COMMITTEE
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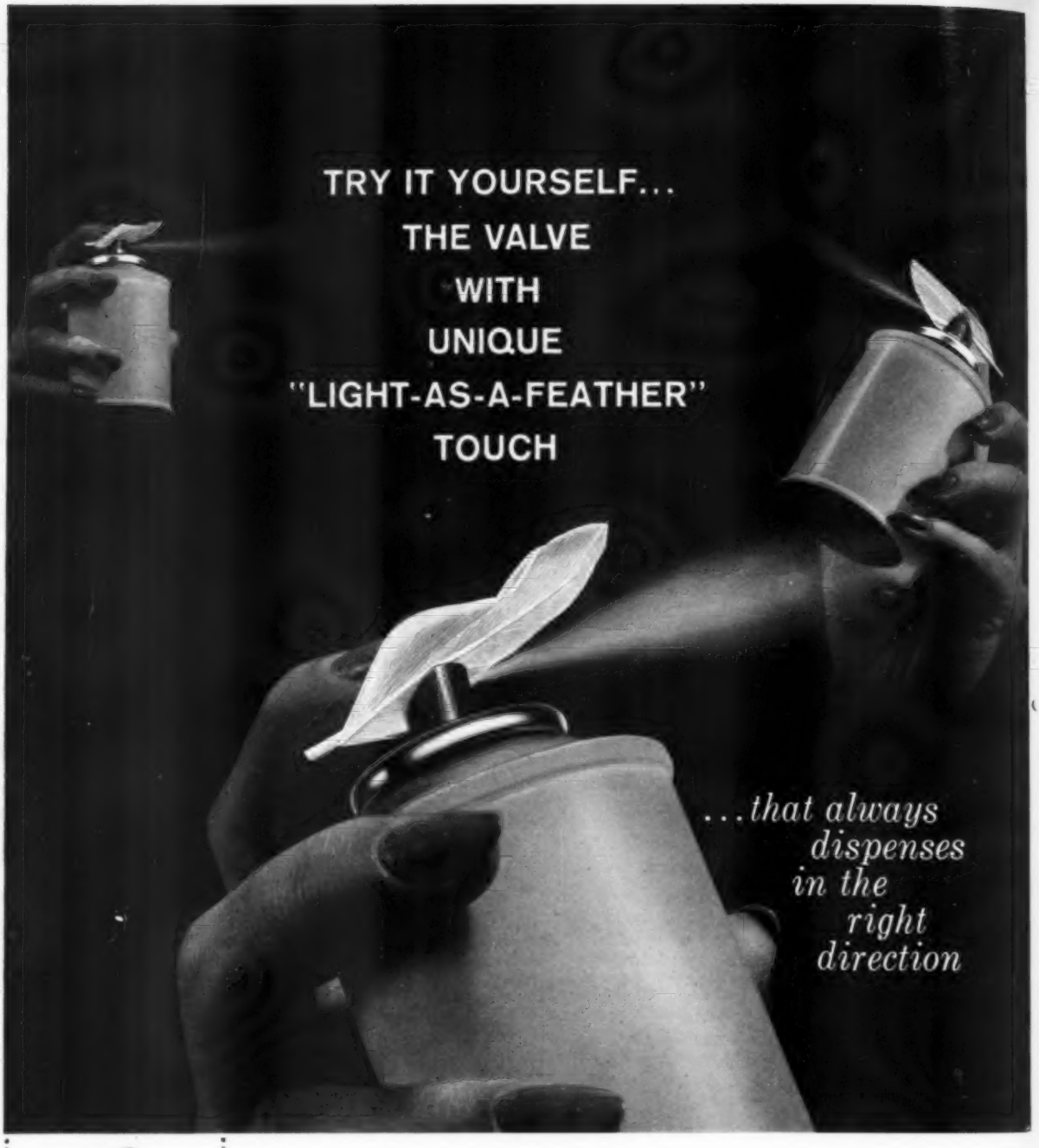

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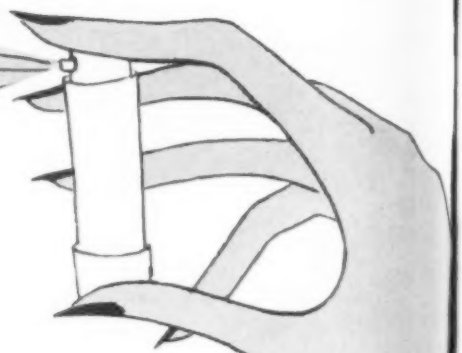

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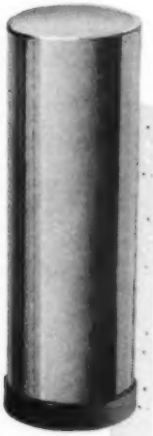

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EDITORIALS

Hot Time in the Old Town . . .

FROM a legislative standpoint, 1960 has already been a busy year for the legal advisers of aerosol marketing firms. During the course of the past eight months, they have had to spread their attention over a whole fist-full of highly important legislative actions which could have profound effect on future marketing and promotional efforts.

To state the problem in briefest terms, a few of the major events of the last eight months have been.:

1. Passage of the Federal Hazardous Substances Labeling Act (Public Law 86-13).

2. Initiation of the provisions of the Food Additives Amendment to the Federal Food, Drug, and Cosmetics Act.

3. A covey of fair trade decisions in the various states, coupled with at least temporary shelving of the Federal Fair Trade Act.

4. Charges of drug price fixing, against a number of major drug marketing firms, instituted by the Kefauver Senate Hearings.

5. Indications of increased Congressional backing for a law requiring pre-testing of cosmetics.

6. Warnings by FDA Commissioner Larrick that his agency is seeking strengthened authority to examine factory records, procedures, and equipment.

7. Warnings by Federal Trade Commissioner Kintner that his agency will "crack down" on advertising in general, and drug-cosmetic advertising in particular. He also hinted that his agency will take additional steps to enforce the provisions of the Robinson-Patman Act.

8. New activity in the state legislatures regarding hazardous substances, labeling, fair trade, advertising practices, and other "hot" subjects.

9. Increased vigilance by the Federal Trade Commission of television, radio, and newspaper advertising, resulting in citations against at least three major aerosol marketers.

10. Statements by public opinion pollsters, advertising executives, and other experts that the consumer is becoming increasingly alert to attempts to "fool" him.

Taken separately, these ten somewhat mixed examples give no particular reason for special alarm. However, considered as a group they would seem to indicate at least the beginnings of a ground swell of public opinion and legislative watchfulness, the likes of which hasn't been seen since Teddy Roosevelt began a sweeping attack on big business in the early part of this century. And it wouldn't be far wrong to judge the situation in the same terms as historians now look at Teddy Roosevelt's activities—that either *led* by legislators, or *followed* by them, something of a consumer revolution is in the making.

If this somewhat sticky contention is a valid one, there is very little one company or even one trade association can do to stem the tide of public opinion—except, of course, to avoid getting in the path of the lightning. In most cases the best course is to ride *with* the tide, making sure that one's own particular products, advertising, and merchandising practices fall well within the letter of the law. A re-examination of labels, the content of television commercials, and general business practices within the firm will also help. In all cases, a well protected flank would seem to offer the best insurance against adding further impetus to the snowballing publicity these matters currently enjoy.★

Esquire's Aerosol Pr

MAJOR aerosol shoe polish marketers appear convinced that the future of aerosol shoe polishes lies mainly in spray wax products which must be brushed or wiped after spraying onto leather. Testimony of this apparently firm conviction is the fact that both Esquire (Knomark Manufacturing Co., now a wholly-owned subsidiary of Revlon) and Griffin (the Boyle-Midway Division of American Home Products) —both major marketers of conventional paste wax shoe polish—recently introduced spray wax products in the face of scattered successes by smaller-sized marketers with "dry bright" lacquer-type products.

To find out why these major companies seem so firmly convinced about spray wax products, *Aerosol Age* last month interviewed Irving J. Bottner, Knomark's president. Knomark, probably the largest volume marketer of paste-type shoe polishes in the U. S., is also the most farsighted and progressive among shoe polish marketers in its efforts with aerosols. Since 1955, when its first pressurized product was introduced, Knomark has put on the market a total of 16 different aerosol shoe and leather products. Latest to hit the market is "Walk on Air," a spray containing Hexachlorophene, dichlorophene, and menthol to refresh the feet.

Esquire's luxury line originally included these five Aerosols.

This new product, being sold this summer in shoe stores all over the country, is being promoted with a new marketing approach for such products. Shoe clerks are being urged to use the spray on the feet of customers when they are trying on new shoes. According to Mr. Bottner, the product is offered as "a service of the store," and the sales pitch is made only if the customer expresses interest.

Mr. Bottner declares: " 'Walk on Air' is the type of a product which actually requires demonstration. We think this significant point explains why similar products, offered for sale in drug stores, will most likely *never* achieve large-volume sale. The potential customer can't really conceive of the refreshing effect of the spray from the exterior of the can itself, no matter how effective the label. The product must be demonstrated, preferably by a shoe clerk who knows how to do it and what the product will do. As may be guessed, we pushed to have the product ready for introduction by summer, when it would achieve maximum sales appeal."

THOUGH he is a strong advocate of the aerosol concept, Mr. Bottner rules out the possibility that perhaps a major portion of shoe polishes might some day be in aerosol form. He points to his company's new line of "Royal Creme" and "Lady Esquire" paste polishes as prime examples of what advanced technology in shoe polish making has been able to achieve. Such luxury paste waxes, Mr. Bottner says, offer a higher gloss than is possible with aerosols. Also, they physically nurture the leather and may be used to add stain effectively without harming the shoe, socks, or rugs.

But Knomark's large investment in aerosol research and an extensive aerosol product line offer strong evidence of its management's faith in the aerosol concept. So far included in the company's current list of successful aerosol products are:

Spray Shine
Shoe 'N Bag Spray
Shoe Refresher
Spot Remover
Suede Renew
Suede Beauty
Clean 'N Shine
Foam White

the "aerosol philosophy" of a leading marketer of shoe products

ol Products

The company's two newest products

The shoe products lend themselves to appealing promotion

Foam Saddle Soap
Water Shed
All Clear
High Light
Cork 'N Buck
Patent Glo

Of these, two, "Esquire Spot Remover" and "All Clear" are the only products not intended for use on leather. Both are spot removers, the latter intended primarily for fine luxury fabrics. "All Clear," "High Light," "Cork and Buck," "Clean and Shine," and "Suede Beauty" are all part of the "Lady Esquire" line of luxury products retailing at $1.50.

Prime volume seller among Knomark's line is "Esquire Spray Shine," which was first introduced late last year. It is a colorless, finely dispersed wax employing a mixture of propellants 11 and 12. A homogeneous solution of waxes, lanolin, silicones, and solvent, it gives a performance normally expected of a superior conventional-type paste polish. Chemically, it is a colloidal solution rather than a simple suspension such as caused valve clogging with early versions of pressurized wax polishes. The formulation is the result of many years of experimental work, according to Mr. Bottner, both with conventional Esquire paste wax and through alteration of some of the previously successful aerosol formulations.

The Knomark management seems convinced that such a product is more appealing in the colorless form. Aside from obviating damage of a color spray to socks, rugs, etc. caused by misdirection, the colorless product may be used on shoes of any color, and it simplifies packaging, distribution and even customer choice on the sales stand. This is a position contrary to that taken by Boyle-Midway, which has brought out its aerosol product in at least two colors, as well as a colorless type.

Aside from product quality, one of the major strengths of the Knomark organization is its sales network. Esquire products, including the aerosol line, are sold in all the major shoe chains, most of the shoe repair stores, and a large number of the five-and-ten and other variety stores. When a new product is introduced, the entire corps of salesmen is oriented completely on what it is, what it will do, and what it won't do. Mr. Bottner suggests that in this way

Esquire's older line of aerosols includes a variety of shoe products.

the enthusiasm of the management about a particular product is passed on directly to the salesmen.

Knomark relies heavily on customer interviews, some of them in depth, to determine customer satisfaction (or dissatisfaction) with each new product. According to Mr. Bottner, such interviews can be a valuable indicator of how successful the product might become, and even of what corrective measures must be taken to insure that it be successful at all.

Most of the company's aerosol product development is done under the supervision of Anthony Hersh, Knomark's research director, in the company's extensive research and product development laboratories at its main plant in Brooklyn. Here the company's large staff of chemists and technical personnel are kept busy

Irving J. Bottner

constantly revising formulations, checking quality control, testing new valve container combinations, etc., to maintain their aerosol products at the top of the competitive heap. Arrayed on shelves about the laboratory are various test packages (some in glass) of many Knomark products and proposed formulations, plus samples of successful and non-successful aerosol shoe polishes marketed by Knomark's competitors. Because of the emphasis on the "dry bright" approach, Mr. Hersh hints, a large portion of the competitor product file is made up of products no longer on the market. Knomark's laboratory maintains a close working relationship with that of Revlon, the parent company.

If Knomark's management had decided in favor of it, Mr. Hersh explained, an Esquire "dry bright" product could have been market ready at least 18 months ago. However, repeated use tests with this type of product revealed that long-term application of such formulations actually damaged shoe leather, and it was felt that the Esquire name was too valuable to put on the line for a product with such dubious consumer appeal.

Mr. Hersh explains it in these words: "None of the ethical shoe polish firms have marketed a dry bright aerosol product because they know that these products cause leather to harden, crack, or otherwise deteriorate. Though these formulations appear to work satisfactorily for the first few applications, they may permanently damage the leather after six or more applications. Chief damage to the leather is caused by an unnatural hardening or stiffening which is especially acute at the 'break' where the foot is flexed in walking. Closing of the pores of the leather with lacquer, resin or some other hard, fast drying substance causes crazing, peeling, cracking, and flaking. Where it needs most to be flexible, the shoe becomes stiff, and the cracks are the result of undue stress in these important flexing areas.

" 'Crazing,' a term widely used in the leather industry, produces what the layman might call the 'alligator effect.' On shoes treated with a dry bright spray flecks or pieces of the coating break off from the surface

Anthony Hersh

of the shoe (because of poor adhesion under stress) and subsequent coats can never restore an even finish. In fact, as the shoe is treated with further applications of the spray, this alligator effect may become more and more pronounced. One further complaint against dry bright sprays is that they give shoes an unnatural, artificial tone."

Despite his current skepticism about "dry-bright" sprays, Mr. Hersh admits that it is entirely conceivable that Knomark might some day introduce such a product of its own. But both Mr. Bottner and Mr. Hersh, queried separately about this key point, suggested that development of a considerably better formulation

(*Continued on Page* 66)

the Toxicity of Fluorinated Hydrocarbon Aerosol Propellants

*By R. C. Downing and D. Madinabeitia**
"Freon" Products Division
E. I. du Pont de Nemours & Co.
Wilmington, Del.

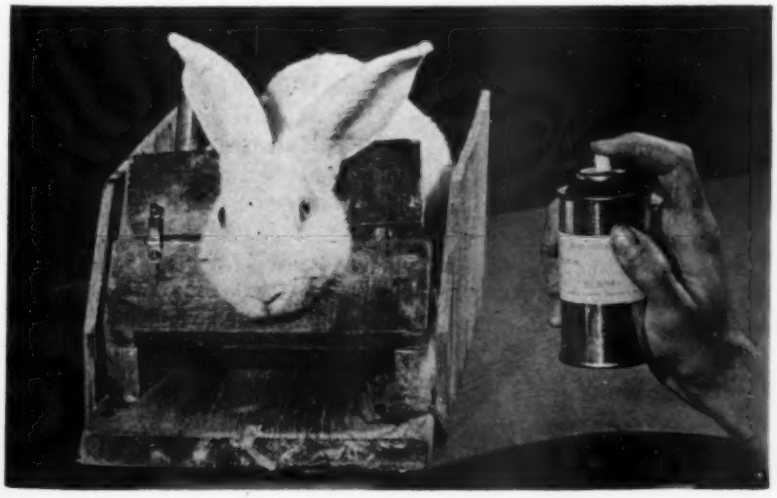
THE scientific approach to problems of toxicology involves serious and methodical consideration of many factors. There is often strong temptation to draw premature conclusions from meager and unverified information. In matters of public health, all of the facts and available information must be considered before conclusions are expressed.

In *Nordisk Hygienisk Tidskrift* (Band XXXIX, 11-12/1958) there appeared an article entitled "'Freon' As A Cause of Poisoning Cases." Aerosol propellant is cited as the cause of poisoning in two cases in Sweden. In our opinion, the conclusions and implications presented in the article are not justified, based either on the data given in the article or on our own experience.

In one case, exposure to leaking refrigerant 12 (in the presence of an acetylene flame) caused difficulty in breathing, sickness and vomiting, but after five days the victim was discharged completely free of illness. In the second case, an aerosol insecticide containing propellant 12 was used in a bedroom in the afternoon. Before going to bed (in the evening?), an electrical heating unit was turned on. During the night, sickness, vomiting and diarrhea developed, and death followed the next day.

Without any question, the fluorinated hydrocarbons will decompose under certain circumstances and the resulting decomposition products and the significance of these facts in relation to the cases reported above are presented as follows.

(G. Barr Photo)



Toxicity of the Fluorinated Hydrocarbons

Published information about the toxicity of the fluorinated hydrocarbon compounds was briefly reviewed in the *Nordisk Hygienisk Tidskrift* article, and the conclusion was reached that they are "substantially nontoxic." The available evidence, including extensive animal testing and human exposure for many years in the manufacture, use, and application of these products as refrigerants, aerosol propellants, and solvents supports this view.

Comparisons of the relative toxicity and explosion hazards of aerosol propellants with other commonly used materials were made by the Underwriters' Laboratories at their principal office and testing station, 207 East Ohio Street, Chicago, and reported by Nuckolls.[1-6] Table I is a summary of the comparative life hazard of these compounds. Propellants 12 and 114 are in the category of gaseous compounds with a very

* Presented originally in the "Aerosol Bulletin" of the Federation of European Aerosol Associations (Feb. and April, 1960) and reprinted with permission of the Federation.

TABLE I. UNDERWRITERS' LABORATORIES CLASSIFICATION OF COMPARATIVE LIFE HAZARD OF GASES AND VAPORS

Group	*Definition*	*Examples*
1	Gases or vapors which in concentrations of the order of ½ to 1% for durations of exposure of the order of 5 minutes are lethal or produce serious injury.	Sulfur dioxide
2	Gases or vapors which in concentrations of the order of ½ to 1% for durations of exposure of the order of ½ hour are lethal or produce serious injury.	Ammonia Methyl bromide
3	Gases or vapors which in concentrations of the order of 2 to 2½% for durations of exposure of the order of 1 hour are lethal or produce serious injury.	Carbon tetrachloride Chloroform Methyl formate
4	Gases or vapors which in concentrations of the order of 2 to 2½% for durations of exposure of the order of two hours are lethal to produce serious injury.	Dichlorethylene Methyl chloride Ethyl bromide
between 4 and 5	Appear to classify as somewhat less toxic than Group 4.	Methylene chloride Ethyl chloride
	Much less toxic than Group 4 but somewhat more toxic than Group 5.	Propellant 113
5a	Gases or vapors much less toxic than Group 4 but more toxic than Group 6.	Propellant 11 Propellant 22 Carbon dioxide
5b	Gases or vapors which available data indicate would classify as either Group 5a or Group 6.	Ethane Propane Butane
6	Gases or vapors which in concentration up to at least about 20% by volume for durations of exposure of the order of 2 hours do not appear to produce injury.	Propellant 12 Propellant 114 Propellant 13B1

low degree to toxicity. Group 1, at the other end of the scale, includes such very toxic materials as sulfur dioxide. Details of the tests which are the basis for the classification in Table I are given in the Underwriters' Reports.[1-6]

Working with monkeys, dogs, and guinea pigs for a period of 12 weeks, Sayers et al.[7] found: "Insofar as the results of animal experimentation serve as a measure of hazards to persons, the investigation described in this report has shown that the possibility of public health and accident hazards resulting from exposure to dichlorodifluoroethane ('Freon 12') when used as a refrigerant are remote."

Several years ago DuPont's Haskell Laboratory for Toxicology and Industrial Medicine conducted some tests to determine the effect of propellant 12 when applied to the eyes of rabbits. This rabbit-eye test is one commonly used for testing the irritating effects of detergents and other similar products.

In the tests a solution was prepared containing 50% by weight of propellant 12 and 50% of a highly refined mineral oil. This solution was sprayed into rabbits' eyes from a distance of six inches. It was estimated that about one gram of solution entered the eye. The results were the same with the propellant solution and with the oil alone. In both cases, slight conjunctival redness developed, but cleared up after 24 hours. No permanent damage was found. This is a severe test. A considerable amount of propellant 12 remains dissolved in the oil so that contact with the eye is maintained for an appreciable period.

The decomposition of propellant 12 can take place in different ways. If water, water vapor, or another source of oxygen is present, the ultimate products of decomposition are the halogen acids and carbon dioxide. Phosgene may be formed as an intermediate product. The following equations illustrate this reaction:

$$CCl_2F_2 + 2H_2O \rightarrow (COCl_2) + 2HF$$
$$(COCl_2) + 2H_2O \rightarrow CO_2 + 2HCl$$

As shown in the above equations, phosgene may be formed in this type of decomposition, but is *always* accompanied by the formation of halogen acids. The available analytical data show that the concentration of these acids is *much* higher than the concentration of phosgene. Since the halogen acids are very irritating at concentrations below the toxic level, they serve as a very effective warning agent. The effect on the nose is so stringent that it is difficult for a person to voluntarily remain in an atmosphere where they are present. This type of decomposition is more likely to happen when propellant 12 is exposed to gas, oil, or wood fires where high temperatures and large amounts of water are present. With electric heating elements, this type of decomposition may also occur if the humidity of the air is high enough to provide some water vapor.

Under some circumstances, propellant 12 may react directly with such hydrocarbons as lubricating oil. In this case, the products of reaction are carbon, the halogen acids, and various hydrocarbon fragments from the oil.

$$CCl_2F_2 + C_nH_{2n+2} \rightarrow C + HCl + HF +$$

Phosgene is more toxic than the other products of decomposition of propellant 12, and it *is* possible that toxic concentrations might be formed *before* its presence was detected by odor. However, to the best of our knowledge, there has been *no* authenticated case of poisoning from phosgene derived from the fluorinated hydrocarbon compounds.

The above discussion of possible methods of decomposition of propellant 12 is given to show that phosgene is formed only in certain cases and that it is accompanied by other acidic products which can be detected by odor before lethal exposure occurs.

IN the *Nordisk Hygienisk Tidskrift* article, some data from Nuckolls[2] was given to show the concentration of decomposition products formed when propellants 12 and 11 were exposed to heated iron surfaces, oil fires, and wood fires. These data are shown in Table II.

The data in Table II were obtained by passing a mixture of air and the propellant compound through an iron (six-inch diameter) or concrete (30-inch diameter) cylinder where exposure to the fire was made. It can be seen that the concentrations of the acids were considerably higher than those of phosgene.

While the data in Table II are interesting, they are not particularly representative of any practical situation. A more realistic test is described in Reference 2. In this case, propellants 11 and 12 were exposed to a hot electric stove in a small room with a volume of 1000 cubic feet. The results of this test are shown in Table III.

The tests leading to the results shown in Table III were performed in a completely sealed room with dimensions of 10 x 10 x 10 (feet). In a normal room where air is continuously replaced, even though all the doors and windows are closed, the amount of fluorinated hydrocarbon propellant compound coming in contact with the heating element would be less and the concentrations of the decomposition products even lower. The test with propellant 11 showed a phosgene content higher than the acid content and seems to be indirect contradition to the argument that acids will always be present in quantities necessary to serve as warning agents.

This exception is not easy to explain. It is the only exception found in dozens of tests with different compounds, including carbon tetrachloride, methyl chloride, methylene chloride, and other chlorinated and fluorinated compounds. An error in the analytical measurement seems probable.

The toxicity of the decomposition products of propellant 12 is real and cannot be ignored. Some of their toxic properties are briefly summarized below.

TABLE II: Decomposition Products from Propellants 12 and 11

Concentration of Fluorinated Hydrocarbon Compound in Air	*Type of Exposure*	*Percent By Volume HCl*	*HF*	*$COCl_2$*	*Cl_2*
Propellant 12					
5.5	heated iron surfaces	0.31	0.19	0.006	0.013
5.4	oil fire	0.05	0.05	0.009	0.000
5.5	wood fire	1.85	0.88	0.124	0.000
Propellant 11					
5.3	heated iron surfaces	1.23	0.15	0.070	0.087
5.2	oil fire	0.26	0.09	0.024	0.000
5.4	wood fire	3.36	0.51	0.083	0.000

TABLE III: Decomposition Products in the Presence of a Heated Electric Stove

Concentration of Fluorinated Hydrocarbon Compound in Air	*Concentration Thirty Minutes After Start of Test, % by Volume Total Acids*	*Phosgene*	*Chlorine*	*Carbon Dioxide*	*Carbon Monoxide*	*Oxygen*
Propellant 12						
2.6	0.000	0.000	0.000	0.0	0.0	20.4
5.1	0.000	0.000	0.000	0.0	0.0	19.8
Propellant 11						
5.4	0.004	0.011	0.014	0.0	0.0	19.7
Propellant 113						
5.2	0.011	0.001	0.001	0.1	0.0	19.9
Propellant 22						
5.1	0.053	0.004	0.001	0.1	0.1	20.1

Phosgene ($COCl_2$)

Phosgene affects the lower respiratory passages and is more toxic than the halogen acids so that concentrations detectable by odor or irritation may be hazardous.

PPM

1 Maximum allowable concentration for continuous exposure[9].

1 Odor perceptible[9].

3.1 Caused irritation of the throat[10].

4 Caused irritation of the eyes[10].

5 Impossible for a man to breathe for several minutes because of its noxiousness.

10 Caused irritation of eyes, nose throat[9].

25 Estimated lethal concentration for man for 30 minutes[9,10].

Hydrochloric Acid (HCl)

Hydrogen chloride exerts a destructive action on the mucous membranes and skin. Exposure to gas or acid may result in chemical burns or dermatitis. Inhalation of excessive concentrations of the gas produces a severe irritation of the upper respiratory tract; prolonged exposure is dangerous to life. Fortunately, its irritating properties make it easily discernible and result in the prompt evacuation of the contaminated area. Contact with the eyes should be especially avoided because of possible corneal damage[11].

PPM

5 Maximum allowable concentration for continuous exposure[9].

33 Animals exposed for 6 hours a day, 5 days a week for 4 weeks showed no immediate toxic effects and no pathological changes[12].

35 Causes irritation of the throat after short exposure[13].

50 to 100 Tolerable for one hour[12].

670 Exposure for 6 hours killed all animals[12].

Hydrofluoric Acid (HF)

Inhalation of the vapors may cause fatal edema of the lungs and, although experience has shown that the fatal vapor concentration for a man in good health is so irritating to the eye and upper respiratory tract that a lethal dose could be received only during unconsciousness or by the sudden inhalation of a spray, it is advisable to place full reliance on this warning[12].

PPM

3 Maximum allowable concentration for continuous exposure[9].

5 Threshold of nasal perception[14].

50 to 250 Dangerous, even for brief exposure[12].

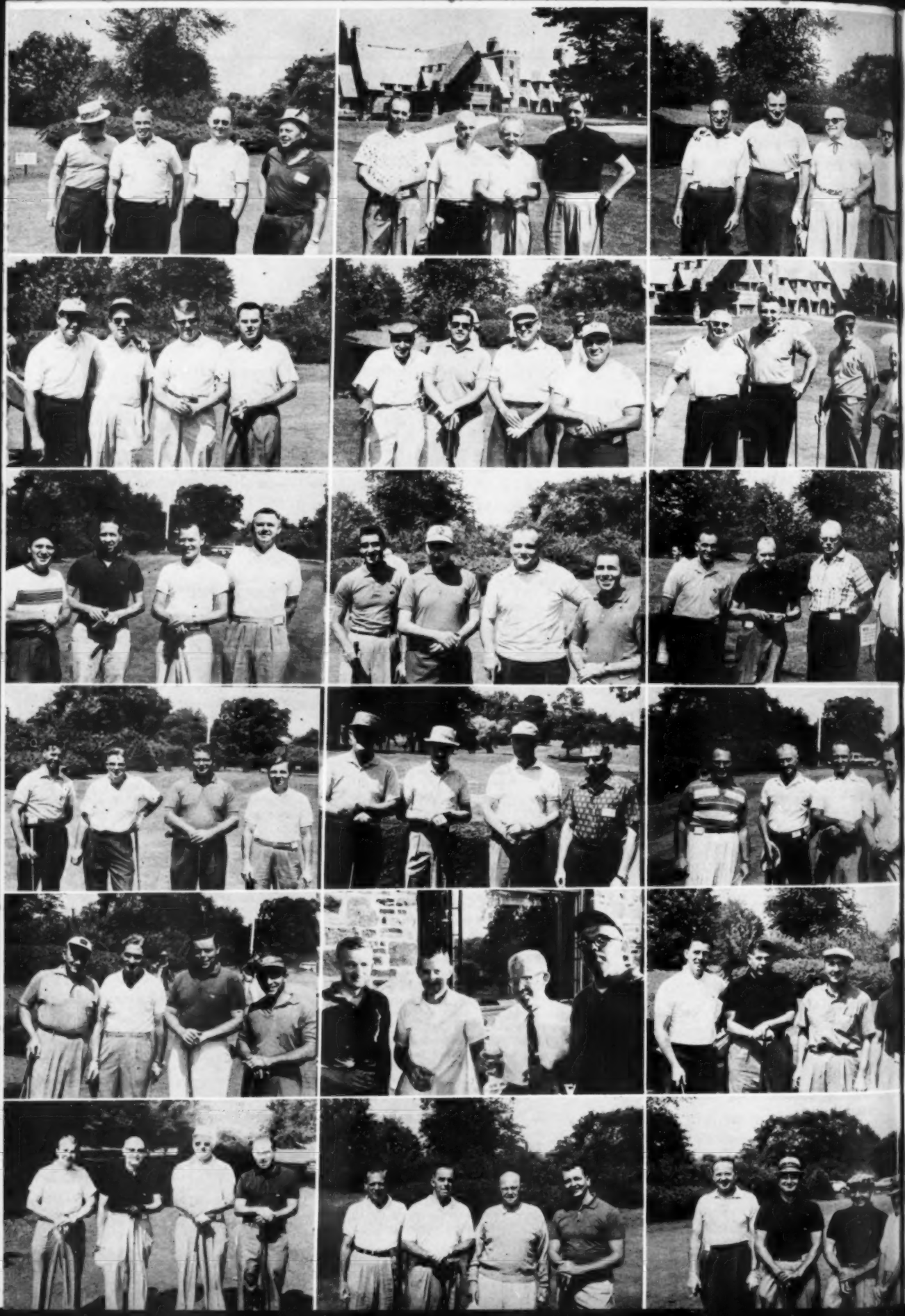
125 Tolerated for 5 hours by guinea pigs and rabbits without injury sufficiently severe to cause death[12].

660 Exposure by inhalation for any period of time is dangerous for rabbits and guinea pigs[12].

Hazard from Decomposition Products

Without attempting to minimize the toxicity of the decomposition products of propellant 12, or to

(*Continued on Page 74*)



Among the guests, aerosol marketers and custom fillers predominated. From left are Don Menhennett, Eveready Products; Chris Cannady, Continental Filling; Gordon Gilroy, Precision Valve; and Phil Meshberg, Emson Research. Phil Sagarin, VCA; Herman Reinhardt, Boyle-Midway; Bob Abplanalp, Precision; and John Gabrielson, Avon. UCA, Emson, and Precision were among the sponsors.

Aerosol Golf Tournament Draws Large Attendance

RICHARD GELB, of the Clairol Co., shot a nifty 75 to win the Sixth Annual Aerosol Invitational Golf Tournament at Winged Foot Golf Club, Mamaroneck, N. Y., on August 9th. Successfully avoiding the course's ample woods and traps, Mr. Gelb fought off strong competition to qualify for both low net and low gross in the tournament. However, rules enabled him to win only one prize, a large trophy to be kept for one year, and a smaller replica of which he gained permanent possession.

The tournament was a special invitational affair sponsored by Aerosol Age, Aerosol Research Co., Allied Chemical Corp.'s General Chemical Division, American Can Co., Bridgeport Metal Goods Inc., Clayton Corp., Continental Can Co., Crown Cork & Seal Co., E. I. du Pont de Nemours & Co., Emson Research Co., Foster Forbes Glass Co., Metal Fabrications Inc., Oil Equipment Laboratories, Owens-Illinois Glass Co., Peerless Tube Co., Precision Valve Co., Risdon Manufacturing Co., the A. Schrader's Son Division of Scovill Mfg. Co., VCA Inc., and Wheaton Plasti-Kote Co. A total of 150 guests and hosts attended, with about 120 playing golf.

Close on the heels of Mr. Gelb for top low gross honors was Thomas Wyman, of the Nestle Co., with a 76. Davis Phillipson, of Aerosol Techniques, Inc., another top aerosol industry golfer who last year won low gross honors, this time had to settle for second low gross. George Spitzer, of Carter Products, had an 85 for second low net and Jack Van Zandt of Helena Rubinstein won third low net honors. Dan Terry, of Boyle Midway, won fourth low gross.

Among the host players, who competed for a separate group of prizes, Len Cannella, of Continental Can, repeated his 1959 trick of winning low gross while Don Tuttle, of Risdon Manufacturing Co., who didn't compete last year, won honors for low net.

There was a covey of special prizes. Harvey White, president of Puritan Aerosol Corp., outdistanced the entire field for longest drive. Russ Bradley, of American Can, captured the nearest-to-pin prize on a special short hole. Frank Steckhan, of the Boyle Midway Division of American Home Products, had a resounding 146 for high total gross.★

At top: the registration table. At bottom: Al Marks, of Wheaton Plasti-Kote, entertains some of the non-golfers during the afternoon.

IN THE April issue of *Aerosol Age* there appeared an editorial which cautioned new aerosol marketers on how to avoid some of the obvious pitfalls in entering the aerosol market. The attention accorded this editorial led to the suggestion that perhaps leading aerosol companies might also want to offer some general advice for the prospective aerosol marketer, and that a symposium-type article on this subject might be extremely pertinent at this time.

With a view toward achieving a cross-section of opinion on this subject, the editors of *Aerosol Age* recently polled a score of executives in leading aerosol firms. They were asked to tell "what general or specific advice you would give the prospective marketer of aerosol products. Such information as the need for a market study, product research and testing, patent searches, equipment requirements, component compatibility, and similiar considerations could well be a part of your ideas on this."

This symposium is not meant to exclude anyone with enough experience to venture a qualified opinion on this subject. Anyone so qualified is welcome to submit a contribution to the article—The Editor.

Advice for the Prospective aerosol marketer

"Trust your custom filler . . ."

By Ira A. Wolfson

President
Pace, Inc.
Wilmington 99, Del.

We have found two major areas in which some small marketers cost themselves time and money. First they don't trust the custom filler as completely as they should. This is particularly true in cases when the marketer chooses to manufacture his own concentrate. Many times we have been handed a concentrate and told to "make an aerosol out of it." The marketer has in these cases often refused to tell us what ingredients are in the product, or in what percentages. This of course not only complicates the job of making a successful package, but also tremendously increases the risk in estimating shelf life. I use the phrase "estimating shelf life" intentionally because it is very rarely that a small marketer is willing to take the time to have complete shelf life tests run on his product. In these cases the filler is called upon to make a guess on can and valve specs based on whatever product information he has available. We submit that, generally speaking, most members of our industry *can* be trusted with confidences. All prospective marketers should be encouraged to take fillers into their confidence regarding product formulations.

The second pitfall into which small marketers tend to fall is one of bad timing in the development of the package. In this case there appears to be a misconception on the part of some marketers about the amount of time necessary to bring a sample request through to fruition with a commercial package. Many times we have been approached by accounts with an idea, a finished label, and with the request to make a delivery in "10 days." As we all know, this is practically impossible even for the simplest product. Just the mechanics of assembling can, valve, actuator button and overcap to required specifications can frequently take 10 days.

In this area we feel that suppliers of aerosol components could be of help. It has been our experience that many of these component manufacturers do *not* keep adequate inventories of popular items. In an industry such as ours we see no reason why standard size cans in nominal specs (½#ETP) or caps in "house colors," or valves should not be available from stock at all times.

Generally speaking, however, we should advise small marketers to allow a minimum of one month on standard products (room deodorants, insecticides, etc.) from the time they present an idea to the filler to the time delivery of the first run is made. On new product types, longer time must be allowed.

"Use the available experience . . . "

By L. G. Cannella
Product Sales Manager
Continental Can Co.
New York, N. Y.

I offer the following advice to anyone wishing to pack his product in aerosol containers: Use to the fullest extent possible the wisdom and experience of men and companies already in the field.

This may seem like the obvious. But paradoxically, even though packaging a new product in an aerosol can presents many problems, the talent and experience available to a new packer is so great that his problem is often simpler than that of a packer planning to use a standard open top can or a non-food container other than an aerosol.

A person or company wishing to package an aerosol has available to him the experiences and advice of 190 fillers, over 20 propellant manufacturers, 26 valve manufacturers, and five container manufacturers. Technical assistance available through valve manufacturers and fillers is such that only the wealthiest companies could afford equivalent technical centers. Yet this wealth of chemists and scientists is available at little or no charge. In addition, propellant manufacturers and container manufacturers have research facilities available to help in compatibility tests.

From the Aerosol Division of CSMA, a complete library of product tests, State and Federal laws, labeling requirements, and almost any information necessary to help him protect himself, is available. Also, the Packaging Institute has an Aerosol Committee which can furnish similar information. Membership costs of these industry associations are nominal and their benefits invaluable.

There is no excuse for any person or company to market an aerosol product which is not completely safe and entirely satisfactory to the consumer. He has but to take advantage of the facilities available to him. I know of no other industry where the marketing of a product is made so easy at so little cost.

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"Sound business practices . . . "

By John G. Ellis
President
Sprayon Products, Inc.
Cleveland, O.

It is ironical, but typical of the American economy, that the golden goose is sick before the first egg is born . . . or to clarify an ill-conceived metaphor, we early pioneers are having a battle to keep our position in our industry even before it achieves a healthy stature. Every new idea, every new concept, will always have the "me too's" and copy artists who soon learn that all they have to sell is price, and in their low overhead floundering to stay alive, our new industry is being undermined by its own astounding growth.

"Astounding growth" achieved by the marketers, without whom there would be no aerosol industry, but at the expense of the custom loader who gambled on an idea, sold a new product, and embarked into uncharted territory with flimsy equipment and little background other than an overdose of self-confidence.

Now it looks easy, and this opinion is being fostered by the original equipment suppliers as well as the major component suppliers. This story was well outlined in a recent issue of *Chemical Week*. Yet the equipment manufacturers cannot be fully blamed, for they must sell their product just as we all must do.

I like to think that we are about where the automobile business was in 1915. Ultimately, through better management, sounder financing, mergers, efficiencies and/or combinations of these and other basic factors, there will emerge a hard core of sound competitors. No amount of breast beating and complaining will forestall this relentless maturing process. It has been and will continue to be, the pattern of all new industries.

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"Product development essential . . . "

By C. P. Clapp
Vice-President
Western Filling Corp.
Los Angeles, Calif.

The most important single consideration in coming out with a completely new aerosol product is to be certain that the necessary product development work has been done so that the item will not fail in the field. Basically, everyone knows this but there is still a tendency to gamble to beat a competitor to the punch with a new product even in large companies that have enormous potential markets. This is probably responsible for nearly all major fiascos and it is extremely expensive to everyone involved, suppliers, fillers and marketers, alike. Examples of this I am very sorry to say are too numerous and lengthy to enumerate. Some aerosol items have never come back because of blunders that happened with their introduction. Market testing, patent searches, label design and proper pricing are necessary for a successful item, but in my opinion nothing can be as costly as failure of an item in the field. Of course the more experience that is utilized, the less the likelihood of fiascos. I dare say, however, that too frequently the merchandising and sales departments can and do force premature introduction of new items, in spite of warnings from the technical staff. In order of importance you would have product development, label design, pricing, market testing, merchandising, patent and trademark searches and applications, all of which must be planned well ahead and all the way through market saturation. If this is not done, my advice would be to carry a rabbit's foot.

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"Cost an involved concept . . . "

By Charles Mellick
Technical Director
Hysan Products Co.
Chicago, Ill.

Contract fillers have understandably given this general subject much consideration, particularly from the point of view as to how new attitudes and trends will affect their ultimate position in the industry. Contract fillers are the most qualified to advise in this area. However, objective advice is difficult to come by. It is often subconsciously or deliberately designed to influence the advised.

Prospective aerosol marketers fall into several categories. The well established integrated organization which is first

(*Continued on Page* 78)

a guide to

PRESSURE FILLING METERED VALVES

THE success of practical volume production of metered aerosol products by means of pressure filling is attracting greater attention as the demand for metered type pressurized packaging increases, particularly among manufacturers of cosmetics and pharmaceutical products. Increasing numbers of manufacturers have come to realize the advantages of dispensing accurate, pre-determined dosages with the aid of the metered valve.

For many years, many manufacturers regarded pressure filling of metered aerosols as desirable in theory but impractical in practice. Pressure filling requires injection of a given amount of propellant, in a liquid state, from a positive displacement pump through a valve opening and via the valve stem into the product container. In the case of the metered valve, there must be provision for depressing the valve so that the propellant will pass through the valve opening (orifice) into the stem, will bypass the metering chamber, and will fill into the container.

European manufacturers have been more receptive to this technique. In the United States, the cold filling method, which requires working with the product at extremely low temperatures, is probably more prevalent. However, subjecting the product to such low temperatures as part of the filling process does introduce certain undesirable factors, particularly with certain perfumes and pharmaceutical products. The two major factors are the chance of dissipation of essential fragrances and the chance of change in chemical make-up of certain components, occasioned by the cooling process to which the product is subjected. This latter factor is not encountered in pressure filling, where the contents of the container remain at virtually constant temperatures throughout the filling operation.

With increased interest in metered aerosol packaging, the success of practical volume production of pressure filed metered aerosol products demands renewed attention, for it may serve as a practical solution for a great many aerosol fillers.

In the perfume industry, for example, the history of Parfums Corday, Inc., creators of "Tojours Moi," "Fame," "Trapez," and other colognes and perfumes, may be cited as a working example of a successful pressure fill operation for metered valve perfumes. Parfums Corday has been using pressure fill both in the United States and France since production of its first aerosol spray cologne product in 1954. This technique is used for *both* metered and non-metered sprays. Recently, Parfums Corday introduced "The Five Hundred," which provides 500 metered cologne sprays of the same fragrances found in its equivalent liquid cologne.

By use of pressure filling, Parfums Corday has been able to adapt aerosol to its fragrances, rather than having to adjust its formulations to comply with filling techniques.

Similarly, when Schering Corp. required adherence to strictest quality control and tolerance factors for a metered-dosage, foam aerosol steroid product, Armstrong Laboratories, Boston, Mass., was able to utilize the pressure fill technique to meet exceptionally high pharmaceutical product standards. Both Parfums Corday and Armstrong *pressure fill* through metering valves, using filling techniques developed by the respective companies and the valve maker.

To understand how pressure filling of metered products is successfully accomplished requires a certain basic understanding of the metered valve itself. The metered valve, through which the pressure filling is done, employs two valve ports — an inlet and an outlet port. Both are operated simultaneously with the depressing of the actuating button. As the button is depressed to dispense the product, the inlet port shuts the valve off from the product in the container and the outlet port is opened, allowing the trapped material in the valve to expand and escape. In pressure filling through the metered valve, the

By Philip Meshberg

President
Emson Research, Inc.
Bridgeport, Conn.

Pressure filling line at Armstrong Laboratories where Schering's "Diloderm" foam aerosol product is filled. Metered unit is packaged on a straight-line operation.

technique is to get the liquified propellant ("Freon," "Genetron," "Ucon," and "Isotron") past the bottom seal of the valve's measured chamber and into the inner container.

The Emson metered valve, used by Parfums Corday and Schering, has a built-in feature which makes this possible. The valve stem has two additional port holes in the bottom portion. When the valve is depressed to its limit, the bottom portholes bypass the bottom seal and provide access via the stem — to the inner container. In this manner, the liquified propellant is forced through the valve into the product container.

Because the metered valve is a more sensitive device than standard valves, precautions must be taken to prevent the valve from becoming distorted during the filling operation, particularly while attaching the valve to the container and in filling through the stem. In pressure filling, a device is attached or works in tandem with the filling apparatus to depress the top of the stem so as to make sure it is in open position. Thus, propellant may enter the valve through the outlet port and can escape only through the openings into the inner container. The measuring chamber and the bottom seal are bypassed.

Armstrong and Parfums Corday have each developed measuring devices to control pressure used to force the propellant through the stem. If the flow rate through the valve is not taken into consideration, it *is* possible that the liquid would back up in the valve tank under great pressure and loosen the valve assembly at the point where the tank is attached to the mounting cup.

Pressure filling equipment generally carries the following controls—

1. An attachment for depressing the stem to the full open position.

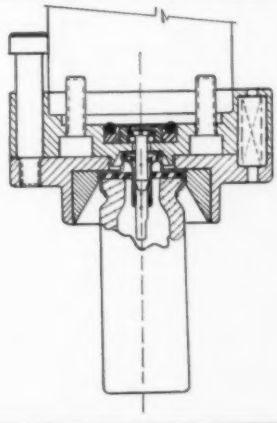
2. A regulator for adjustment of pressure behind the liquid propellant, so as not to damage the valve.

3. A control for guaranteeing the exact volume of propellant to pass through the valve by volumetric displacement, rather than by means of a time factor. In other words, it can be expected that some valves will fill slightly faster than others. If the cycle is based on the lowest or fastest filling time, it would then be possible to damage the valve as well as short-fill the container.

As Parfums Corday, Armstrong, and a number of European fillers have demonstrated, volume production pressure filling lines for metered aerosols are a practical working technique which can come into its own in the United States with the increased use of metering valves.

Pressure filling requires a comparatively modest investment for a complete line, in contrast with the elaborate refrigeration equipment required for cold filling. Thus, the contract filler who wishes to handle perfume and pharmaceutical products or the manufacturer of such products who wishes to do his own filling can amortize the cost of equipment within a relatively short time.★

Key to the pressure filling of metered containers is this special attachment (made by Emson) which depresses the valve to provide a passageway through the stem to the container for the propellant. The attachment fits on standard pressure filling head.



*By John J. Sciarra, Ph.D.** and Vincent de Paul Lynch, Ph.D.****
St. John's University, College of Pharmacy
Jamaica 32, New York

(Photo Thomas J. Mahon, Inc.)

Aerosol Inhalation Therapy*

INHALATION therapy may be defined as "the administration, via the respiratory system, of medicinal agents which are in the form of fine solid particles or a liquid mist." This method of administration is not new. The ancients recorded the efficacy of the vapor from burning leaves and herbs; within the past 30 years, the smoke from burning strammonium leaves has been used in the treatment of asthma. In more recent times, physicians have administered penicillin and other antibiotics by way of the respiratory tract. While this form of therapy is useful for its local effects, it also produces systemic effects, that is, effects which occur because of absorption of the drug into the general circulation. The nature of the respiratory system is such that it permits the prompt absorption of many drug agents, so that it can be said that inhalation therapy almost approaches intravenous therapy in the rapidity of its onset of action.

The rationale behind the treatment of disease with drugs lies in first finding a substance which will alter the condition and then getting the material to the affected site in an adequate concentration as rapidly as possible. If it is assumed that drugs are available, then the problem resolves itself into one of methods of administration and absorption.

Under ordinary circumstances, drugs may be applied topically, administered orally or rectally, or given by injection. How much of the drug and how fast it reaches the circulation depends upon the rate and amount of absorption. In the case of topical application (application to skin surfaces) both rate and amount of absorption would probably be rather small. This is readily understandable considering the physical barrier presented by the skin surface, and the fact that many other factors including the physical properties of the drug, the distribution of hair follicles and surface pores (through which the material is chiefly absorbed) and the properties of the vehicle are involved in delaying the process.

The use of the rectal or oral route of administration also depends upon the amount of drug absorbed, in this case, by mucosal surfaces. The physical skin barrier is absent, and the material is in closer contact with the circulatory system. However, the drug must be capable of withstanding the digestive onslaught of the stomach and intestine. Furthermore, absorption must take place in the presence of peristaltic movement and usually in spite of an adverse concentration gradient.

ADMINISTERING a drug by injection technique overcomes many of the objectionable facets of oral and topical dosage, while intro-

* Presented to the 46th mid-year meeting, Chemical Specialties Manufacturers Association, Chicago, Ill., May 16-18, 1960.

** Associate Professor of Pharmaceutical Chemistry.

*** Assistant Professor of Pharmacology.

As you know, in today's market, your product must be smartly dressed and up-to-the-minute, for maximum sales appeal at the point-of-purchase.

Peerasol* is the distinctive, seamless, aluminum aerosol container that is being chosen by drug, cosmetic, pharmaceutical and specialty product manufacturers to meet a growing consumer demand for smaller pocket and purse size aerosols. It is the only aluminum aerosol container with a patented neck for a leak proof valve-cup fit. This feature, combined with the extruded one-piece construction, makes a container you can market with confidence. Peerasol containers can be handsomely lithographed in two, three, or four colors over a base coat, and come in capacities ranging from one-half to four ounces.

Peerasol is another development of the Peerless Tube Company, a pioneer in the manufacture of collapsible metal tubes as a package for commercial use.

For complete information about Peerasol containers, write or call—

PEERLESS TUBE COMPANY, Bloomfield, N. J.

** Peerasol is a tradename of the Peerless Tube Company.*

(Riker Photo)

ducing *other* objections. The most decided disadvantage is the fact that sterile technique, equipment and materials are necessary, and the injection must be made by a specially trained person, usually not the patient.

In the case of intravenous administration, even a nurse or doctor sometimes encounters difficulty. And in addition, most injections are accompanied by some degree of discomfort. There is the possibility too, especially in the case of intramuscular or subcutaneous injection, that the material will be incompletely absorbed and that a sterile abcess will result.

In light of these facts, it would be well to discuss the respiratory system before discussing the advantages and disadvantages of aerosol therapy.

Anatomy and Physiology of the Respiratory System

The respiratory system or tract consists of the nasal passages and the mouth opening into the pharynx, the larynx, the trachea, the bronchi and the lungs.

Air enters the nose or mouth, passes into the pharynx and thence into the larynx. The larynx and pharynx are separated from one another by means of the epiglottis which permits the passage of air or materials suspended in air, but prevents the passage of liquids or solids into the larynx during the swallowing process. From the larynx, air enters the trachea which divides to form the upper bronchi. Smaller air passageways, called terminal bronchioles, arise from the bronchi. These terminal bronchioles subdivide into respiratory bronchioles which give rise to the alveolar ducts (5 or 6 per bronchiole). After branching a variable numer of times, each alveolar duct terminates in several alveolar sacs (3-6), the walls of which contain pouch-like structures termed pulmonary alveoli. From the area of the respiratory bronchioles to the pulmonary alveoli, true respiratory function occurs, that is, exchange of gases takes place.

From the oral and nasal cavities to the terminal bronchioles, these structures are for the most part lined with mucosal tissue which is well supplied with arteries and veins. Thus, the surface they present to materials to be absorbed is similar to the lining of the stomach or intestine. However, there are also cilia (or hair-like projections) present which beat rhythmically and tend to propel the sheet of mucous which envelopes them in the direction of the mouth. This is the mechanism whereby the body entraps and expels foreign particles entering the respiratory passageways with atmospheric air. Not all suspended materials are eliminated in this way, the limiting factor being the size and mass of the particle, and the diameter of the air passageways. The latter is less important than the former when it is considered that the mechanism for removing particles from the air is so efficient that the majority of particles larger than 5 microns in diameter are prevented from entering the lungs by this means. On the other hand, the smallest respiratory unit, the alveolar duct has a diameter of about 200 microns. There is, of course, a minimum to the size particle which will be retained within the alveolar sac and not be expelled during expiration, the size particle being usually below 0.5 microns. Particles between these limits (0.5-5.0 microns) would tend to fall against the alveolar walls and mix with the alveolar fluid.

A factor which contributes greatly to the respiratory function of the lung is the thickness of its walls. From the respiratory bronchiole to the alveolar sac, these walls consist of thin connective tissue in close contact with underlying blood vessels. In fact, the walls of the pulmonary alveoli consist of a single layer of epithelial cells with a single capillary between adjacent alveoli, so that, in most instances, material in the alveolar cavity is separated from circulating blood by only two membranes, the alveolar and the capillary walls. The area of the exchange surface of the lung must also be considered. This is estimated to be about 55 square meters or about 25 times the surface area of the skin. If it is kept in mind that this is also the area of the available adjacent blood supply, the rapidity of absorption in this area will be more readily understood.

It is therefore an accurate statement that if a drug meets a few physiological criteria, it would be suitable for use in aerosol inhalation therapy.

From the point of view of the pharmocologist, one of the most important considerations in the usefulness of a drug substance is whether or not the material is soluble in body fluids, and therefore capable of being absorbed. Thus, a drug to be given by inhalation therapy must be soluble in natural secretions. Very slowly soluble and absorbed substances would probably also be proscribed. These materials are likely to act as foreign bodies and produce some degree of irritation, or as in the case of mineral oils, produce a type of liquid pneumonia. In some cases, the degree of solubility determines the method of administration. For example, materials in suspension form are not given intravenously because of the danger of occluding some vital artery. They may be given subcutaneously or intramuscularly, however, since they are solwly soluble in body fluids and absorbed accordingly. Without studying some specific material, it would be difficult to estimate the critical length of time that a material might remain undissolved in the alveolar space without causing some tissue damage. It should be pointed out, of course, that the body

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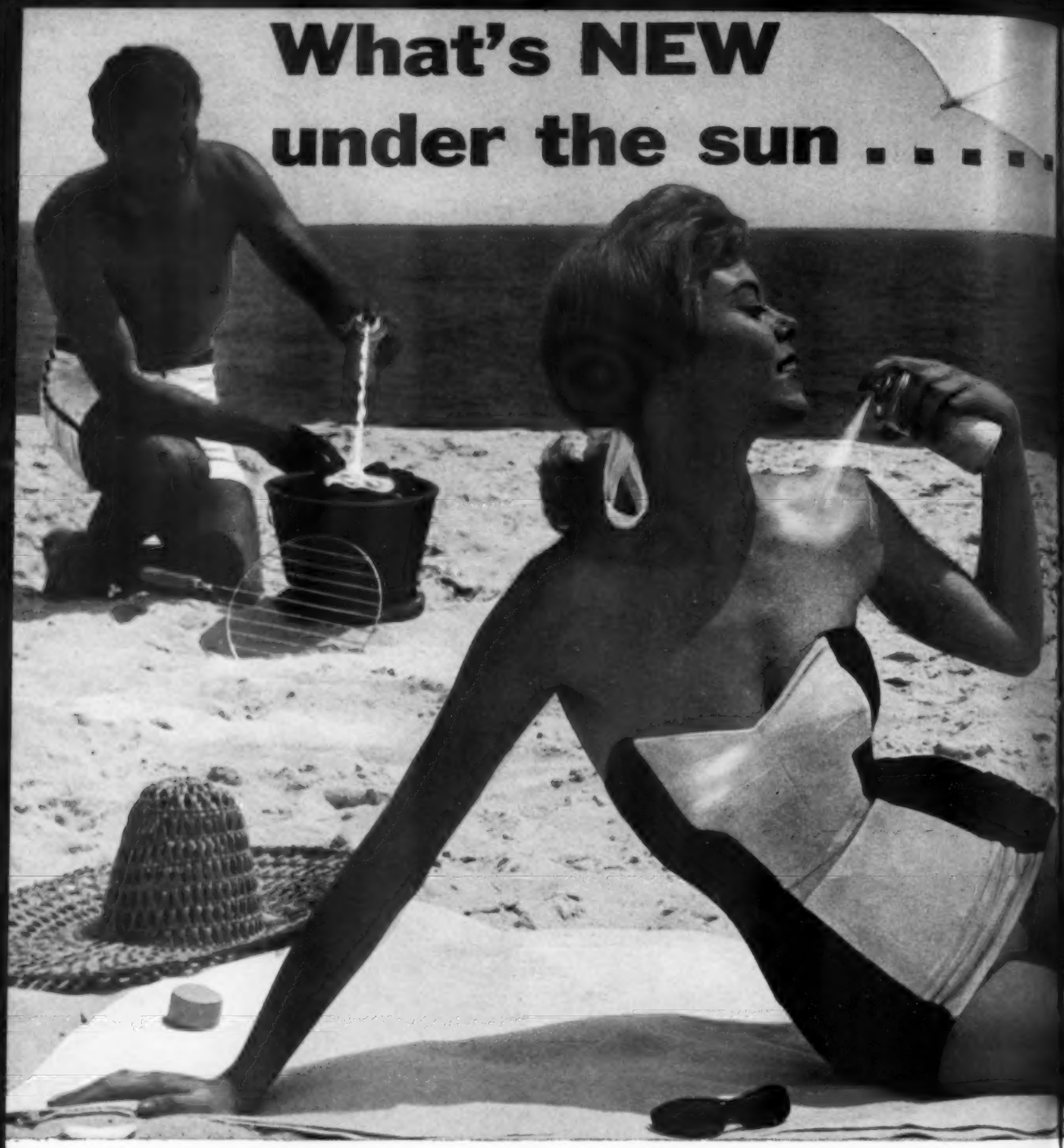

How The Magic Touch of Aerosol Packaging Skyrockets Sales!

Wherever you go this summer, you'll find more and more aerosol products increasing people's enjoyment of outdoor living. Use of aerosol garden sprays is at an all-time high. Demand for aerosol insect repellants is growing "like Topsy." Spray-on sun tan lotions are gaining increased popularity. And so are the many newer types of aerosol products, such as charcoal lighter and outdoor grill cleaner.

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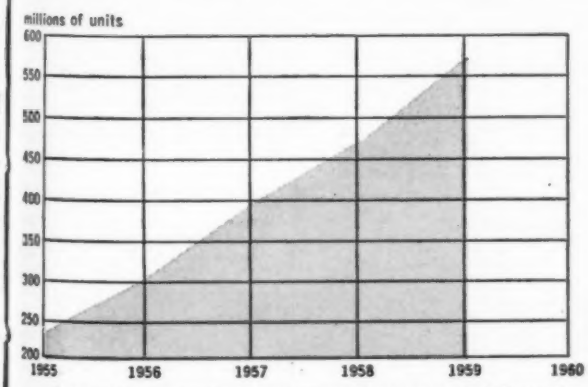

Sales of aerosol products have grown 135%* in the last 5 years!

*Estimated by Market Surveys Department,
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Drop Tests

with Nylon and Delrin Aerosol containers

RECENT drop tests conducted for Bernardin Bottle Cap Co. on their nylon and Delrin aerosol containers indicate these bottles have a built-in safety factor. These tests were conducted by Continental Filling Corp. of Danville, Ill., for Bernardin, and an outside firm was selected to insure that the results would be accurate and correspond to the proper procedure set forth by the Chemical Specialties Manufacturers Association.

Bottles tested were taken from a sample injection mold with a designed wall thickness of .032 minimum and .052 maximum. Incidentally, the same mold was used for both nylon and Delrin. These varying wall thicknesses were necessary because of the contour of the container and its design. The containers were designed to withstand a six-foot drop.

The most interesting aspect of the tests was the fact that *none* of the test containers broke at any height under eight feet. This applied to both nylon and Delrin.

The Delrin test consisted of fifty bottles each of four colors — green, blue, brown and natural. One-half of each was dropped at 70° F. The other half was dropped at 100° F. The internal pressure was 24 p.s.i. at 70° F.

The fill was approximately three fluid ounces.

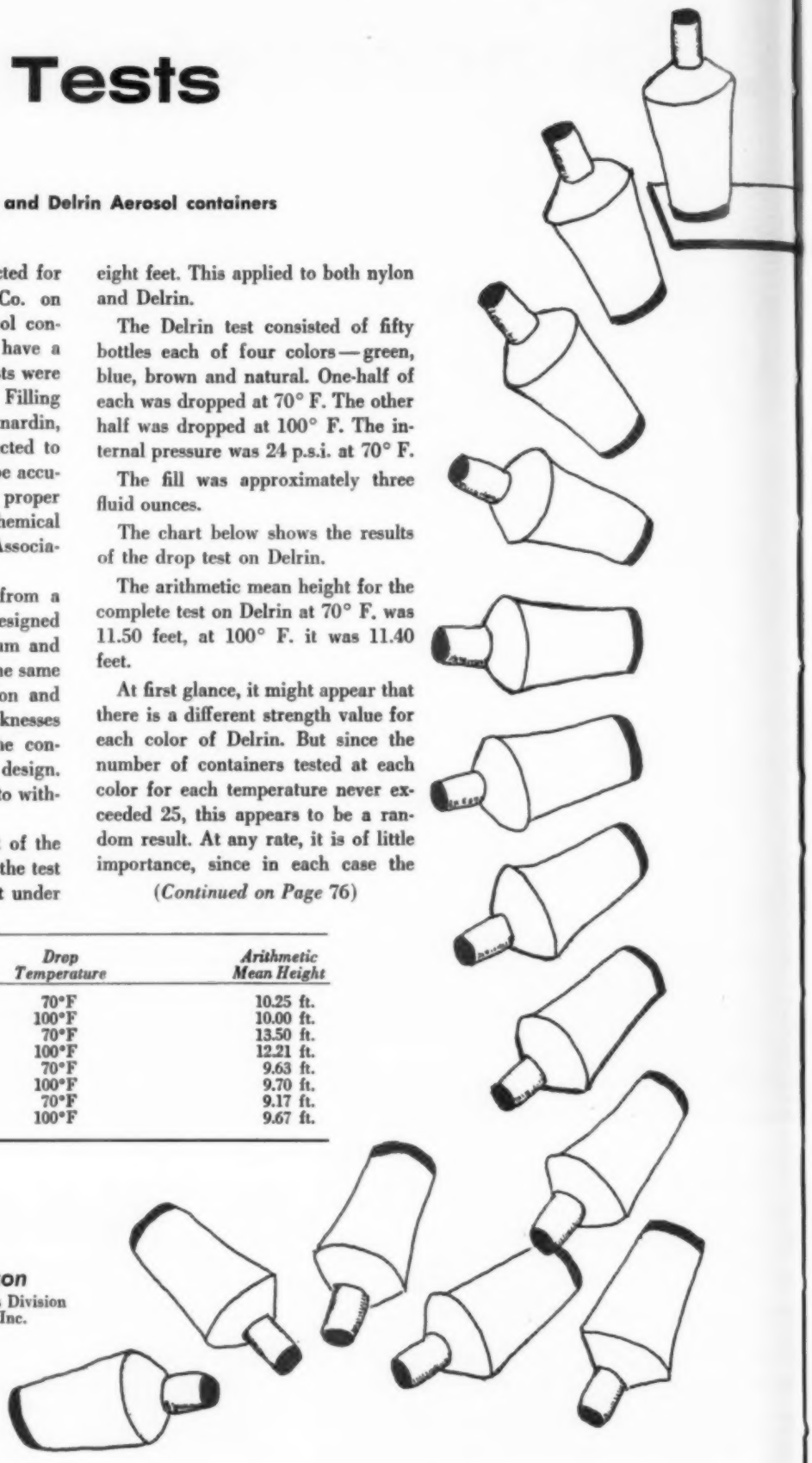
The chart below shows the results of the drop test on Delrin.

The arithmetic mean height for the complete test on Delrin at 70° F. was 11.50 feet, at 100° F. it was 11.40 feet.

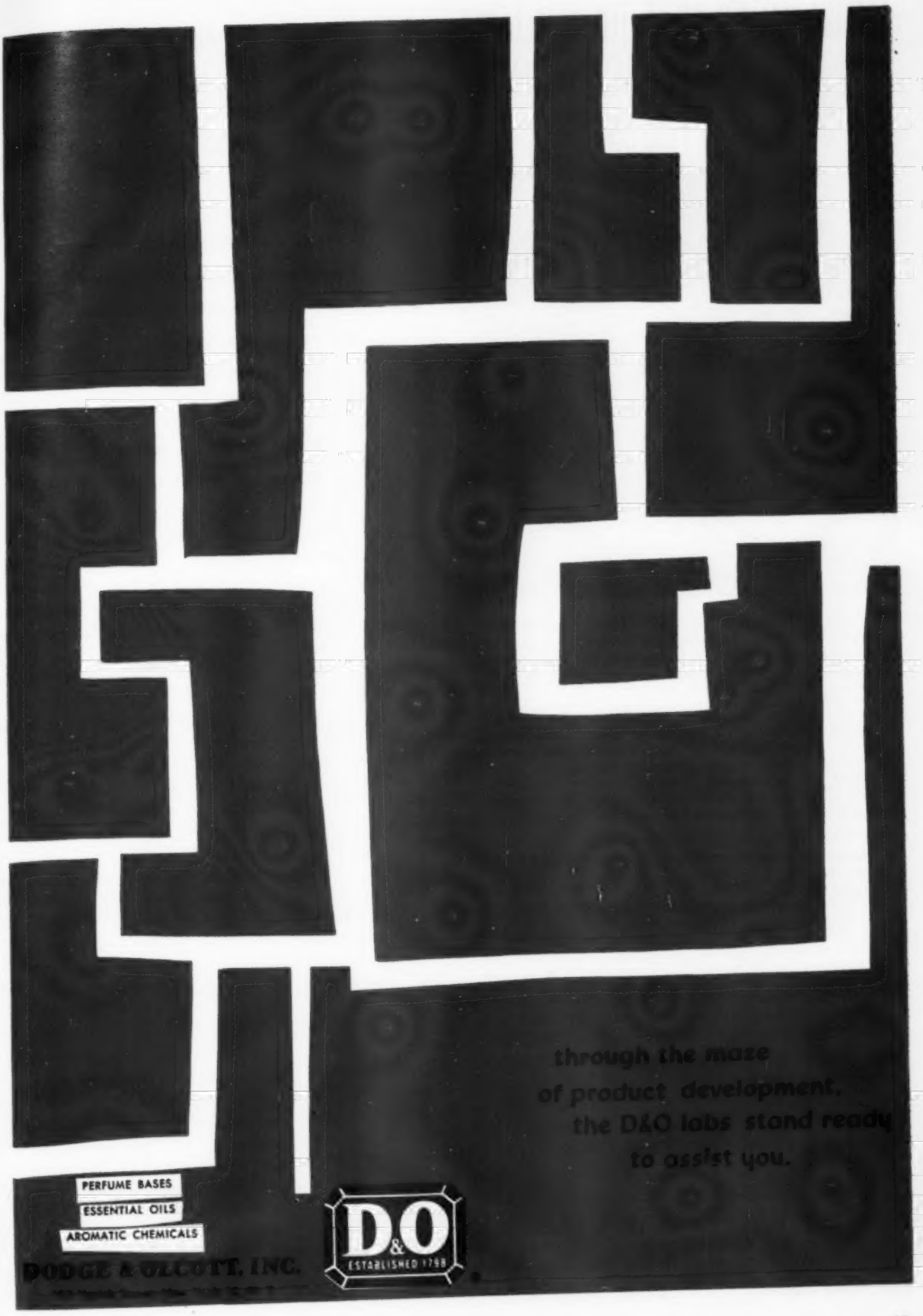
At first glance, it might appear that there is a different strength value for each color of Delrin. But since the number of containers tested at each color for each temperature never exceeded 25, this appears to be a random result. At any rate, it is of little importance, since in each case the

(*Continued on Page* 76)

Container Color	*Drop Temperature*	*Arithmetic Mean Height*
Green (GN 602)	70°F	10.25 ft.
Green (GN 602)	100°F	10.00 ft.
Natural	70°F	13.50 ft.
Natural	100°F	12.21 ft.
Blue (BL 602)	70°F	9.63 ft.
Blue (BL 602)	100°F	9.70 ft.
Brown (BN 601)	70°F	9.17 ft.
Brown (BN 601)	100°F	9.67 ft.



By Lewis L. Otterson
Sales Manager, Special Products Division
Bernardin Bottle Cap Co., Inc.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EMSON VALVES MEET THE CHALLENGE OF PRESSURE FILLING PERFUMES!

Since 1955 Corday has used the Emson Metered Valve for its famous spray colognes, Toujours Moi, Fame, Jet, Trapeze, etc. Conclusive proof that Emson design makes product performance better, profits higher!

The unique design permits the container to be pressure filled thru the valve stem. Dissipation and dissemination of the delicate fragrances (which often occurs when perfumes are 'cold filled') is eliminated. Corday handles their various fragrances at room temperatures, with simple set-ups, in a conventional manner.

Now, pressure fill without fear! Give your customer positive control . . . full fragrance for her money!
Take advantage of:

- Original fragrance.
- Accurate filling control.
- Low cost equipment and operation.
- Minimized propellent loss.

Emson pressure filling metered valves are available for standard 1" mounting cups, standard glass bottles (20 mm tops), and special containers such as stainless steel (20, 19, 18 mm tops).

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New Food Product is Heralded as Major "Breakthrough"

EARLY next year a new aerosol food product will be introduced nationally after probably one of the most extensive development and test marketing program ever undertaken for a pressurized product. Called "Whiz," it is a product of the newly-formed Food Division of Continental Enterprises, Inc., Jacksonville, Fla. Continental Enterprises is an investment company engaged in such widespread activities as movie theater operation (in Atlanta, Tampa, and Jacksonville), operation of garbage collection and disposal units (Broward County, Fla.) and motion picture production (the newly-formed CE Productions Inc., Hollywood).

The company is described as a "spin-off" of Louis Wolfson's Capital Transit, Inc., well-known investment firm and owner of transportation fleets.

The new aerosol product is especially noteworthy from a number of standpoints. It is believed to be the first aerated chocolate syrup concentrate which employs the propellant (a combination of nitrous oxide and carbon dioxide) to agitate the concentrate into the milk at which it is directed. This eliminates the need for stirring, and according to Irving Fox, general sales manager of the Food Division, gives the product the special appeal needed for a new large-volume aerosol package.

Also, the product eliminates the sedimentation often encountered with other products; and, because of an exclusive pre-heating concept developed by Continental Enterprises, requires no refrigeration, thus allowing it to be displayed with competitive conventionally packaged products on the shelves of supermarkets. In use, it is simply aimed directly into the milk, with the compressed gas propellant acting as an "automatic" stirrer.

THIS package concept, for which patents have been applied, will be counted on by Continental Enterprises for a wide variety of similar "jet stream" self-agitating products. By year's end, strawberry, cherry vanilla, and coffee flavorings are expected to be ready for test marketing. And in the message of Arvin K. Rothschild, president, to the annual meeting of the stockholders (in May of this year), a number of other new aerosol concepts were forecast:

"We are planning to have available at an early date a multitude of concentrates for fruit drinks; flavored syrups; pure juices (orange, grapefruit, pineapple, prune, tomato, etc.); coffee and tea, homogenized bacteria-free concentrated milk products. For example, our chemists and research department are producing an orange juice concentrate that you simply 'jet' into your glass of water to give you a juice incredibly comparable to freshly squeezed orange juice. In our opinion, it is far superior to existing concentrates requiring the usual cumbersome stirring or shaking. The powerful jet stream completely disperses the concentrate, producing a full flavored finished beverage. Additionally, no refrigeration will be necessary.

"Liquid milk concentrates offer the broadest markets of all. Under our plans, they too will be 'jet streamed' into water, resulting in homogenized whole milk with equal butter fat content and, we believe, with equal or superior palatability. Up to now, the chore and inconvenience of reconstituting milk have been sales deterrents. We feel that our product will not only eliminate these drawbacks to consumer acceptance, but will also make milk available at a reasonable price in areas of the world where heretofore it has been scarce."

This optimism about the product, according to Mr. Fox, is based on both the developmental program

(conducted mainly at the company's Brooklyn, N. Y. laboratory) and the somewhat spectacular responses from consumer panel sampling and extensive test marketing in Jacksonville and Cleveland. For instance, the test panels revealed an exceptionally high consumer acceptance rating—96% of the panel on the basis of product flavor and 92% for convenience. "Whiz" has also enjoyed a similar high rate of acceptance in the test marketing cities.

The development of the product rates almost a separate story in itself. From a concept initiated by Mr. Fox (former president of H. Fox & Co., marketer of "U-Bet" chocolate syrup and the Fox Wiprite Co.), the package has been analyzed and improved in the company's laboratory over a period of six months. Not content with what may have been slightly biased opinions, the company submitted the product to Arthur D. Little Co. for suggestions, and has used Dr. John Sciarra and the facilities of St. John's University to further refine the package.

The final package employs an American Can 16-ounce container, with a Clayton and Super Whip valve and cap. Retailing at 59 cents, it will flavor 24 large glasses (four quarts) of milk. The filling is done on a Horix filler, with a LeMay gasser-shaker and a JG Machine crimper in Continental's Brooklyn plant. When National distribution is achieved, the company expects to have its own plant in operation.

As to marketing plans, one must go back to the May report by Mr. Rothschild: "Following completion of our market tests, we plan to either license franchises to outstanding food and beverage concerns, both in domestic and foreign markets, or merchandise our products by one of several methods now being studied. These franchises involve products where consumer purchases now annually achieve billions of dollars in world-wide sales."★

DuPont Issues Status Report on New Food Propellant "Freon C318"

FOOD aerosols, which until now have used only compressed gases as the propellant, may soon be improved by the use of a liquefied gas that provides uniform discharge and in many cases gives a superior product. This near-term development was foreshadowed by the announcement in the *Federal Register* on August 6 that the Food and Drug Administration has accepted for filing a petition for approval of the use of "Freon-C-318" as a propellant in food aerosols.

"Freon-C-318" propellant, chemically octafluorocyclobutane, was developed by Du Pont as an addition to its family of fluorocarbon propellants. The new product is odorless, tasteless, and is reported to have the chemical stability needed for use with food products.

After carrying out exhaustive tests which indicated that there were no toxicological problems in the use of "Freon-C-318" as a food propellant, DuPont submitted detailed data to the FDA for review by that agency. Under the Federal Food, Drug and Cosmetic Act as amended, any food additive must be approved by the FDA before it can be marketed for use in foods. Acceptance for filing is the first step in the approval procedure which calls for an additional period of three to six months for final determination. Following this, if approval is granted, the FDA will establish a regulation outlining the conditions under which "Freon-C-318" may be used as a food propellant.

This approval is expected to open up a broader field of food aerosols which will utilize the inherent advantages of a liquid-compressed gas propellant mixture. Pressure-packaged whipped creams, for example, are dispensed more uniformly when 15% of "Freon-C-318" is added to the compressed gas, nitrous oxide. This propellant mixture will reportedly also dispense whipped cream of better color, higher foam density and much greater stability.

Because of these advantages, it is expected that "Freon-C-318" will be used in products where a foamed or slightly foamed discharge is desired. There are a number of potential products currently under study in this field, such as whipped butter, cream cheese and canape spreads, which have not as yet been produced in aerosol form due to the lack of a suitable propellant.

In the case of such foods as salad oil, catsup or barbecue sauce, where liquid discharge of pure product is desired, compressed gas alone may continue to be the logical propellant choice, provided enough gas can safely be included in the container to expel what the consumer will regard as a reasonably acceptable amount of the product. However, where it will provide the desired foamed discharge pattern, the liquefied propellant is superior to the compressed gas because of its better pressure characteristics and ability to eject more of the food from the container.

DuPont has been making "Freon-C-318" octafluorocyclobutane in semi-commercial quantities for investigation and experimentation. Many food manufacturers have been working with small samples in anticipation of FDA approval of its use in food.★

•

Witco Buys Sonneborn Corp.

The Witco Chemical Co., New York, manufacturer of detergents, paint chemicals, resins and emulsifiers, last month acquired the Sonneborn Chemical and Refining Corp. and its subsidiaries for 300,000 shares of Witco stock. Sonneborn makes solvents, lubricating oils, petrolatums, waxes and other petroleum specialties. The exchange involved stock valued at $11.7 million.

For the fiscal year ending Jan. 31 Sonneborn had sales of $37,478,000 and $858,000 in net income. In 1959 Witco had a net income of $2,028,200 on sales of $51,206,600.

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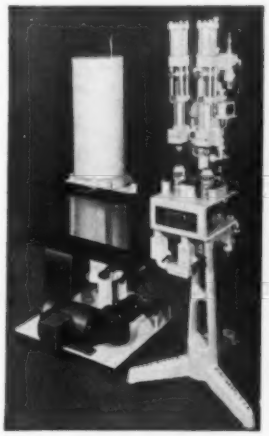

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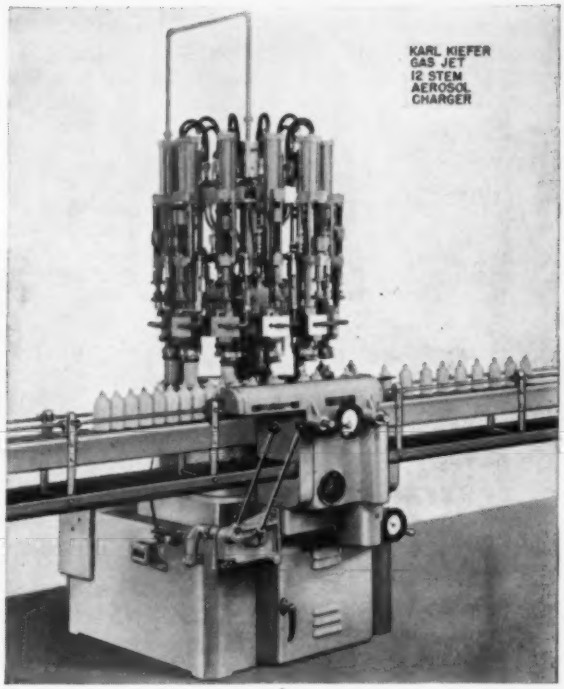

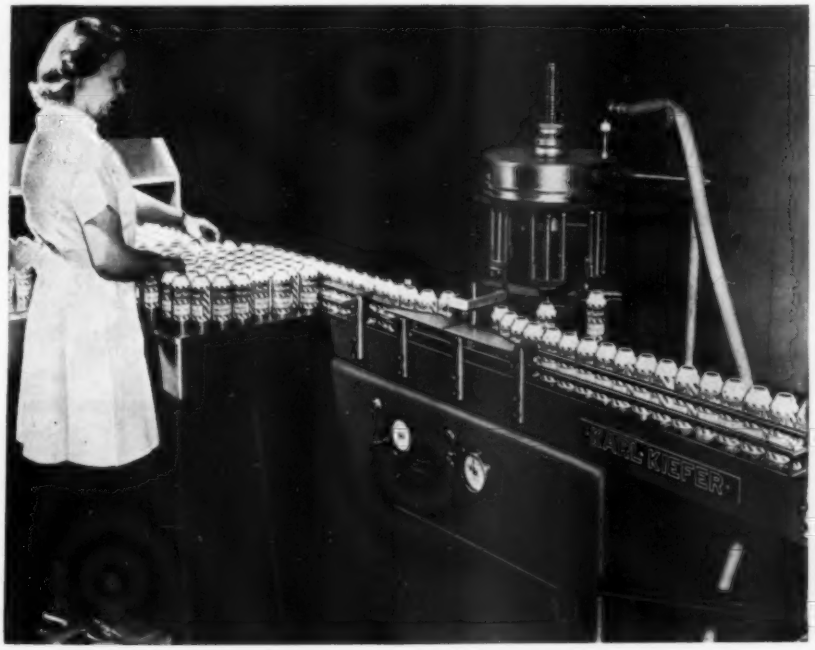

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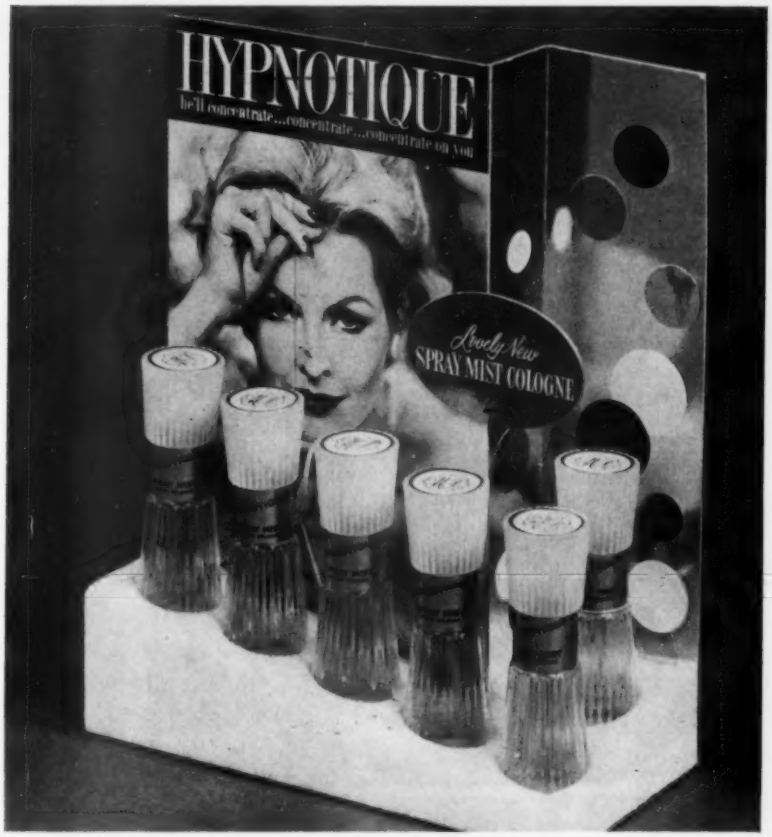
Charmore Products, Inc., has introduced a new ¾ths ounce version of its **Touch and Set Hair Spray.** Container is by Peerless tube, overcap by LaBarb, Inc., with a B-8 valve by VCA. It is being filled by Aero-Chem.

Barbara Betty Spray Paint Enamel, in 16 standard colors, has just been introduced by Haas Chemical Corp. Division of the Scranton Carpet Corp., Scranton, Pa.

8 x 4 Spray is a new personal deodorant marketed by Doetsch, Gretner & Cie, Basel, Switzerland. It is packaged in an aluminum container and utilizes a Risdon Micro-Mist valve manufactured by Solfrene, S.p.A., Milan, Risdon licensee.



Hypnotique Spray Mist Cologne is a new product of Max Factor, Inc., Hollywood, Calif. cosmetics marketer. Retailing for $2, the package holds two ounces of cologne and will be introduced in this counter merchandiser with a fitted well base. Factor will also market its Primitif and Electrique fragrances in a similar package.

NEW PRODUCTS AND PACKAGES

Roses of Gold is a new 2-ounce aerosol perfume marketed by Dorothy Perkins, Inc., New York. Bridgeport Metal Goods refillable case uses a Foster Forbes uncoated bottle, with plastic coated refill bottle by Wheaton. Filled by Powr-Pak, it uses a VCA B-18F metered valve.

Intima Spray, one of the first aerosol vaginal pharmaceutical products, has been introduced by Radar Medical, Rome, Italy pharmaceutical marketer. Utilizing a standard Risdon glass bottle valve with a special applicator, it is packaged in a Bormioli plastic coated bottle filled by Solfrene, Milan. Valve is also supplied by Solfrene, Risdon Italian licensee.

Spray Mount is a new aerosol spray photo and art adhesive from Straus Photo Technical Service, Inc., Washington, D.C. Eight-ounce can retails for $1.59.

Chromsaver is a chrome cleaner and sealer introduced by Restorz Products, Inc, Waterbury, Conn. It will retail at $1.50, with national distribution by Brand Products, Inc., New York.

Atha-Spray, a new athlete's foot medication, has been introduced by Youngs Rubber Corp., New York, with a Peerless Tube container and a cap by Metal Fabrications, and a valve by VCA. Predominant container colors are white and gold.

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AEROSOLS in review

A summary of aerosol articles in other publications

Consumer Magazine Praises Aerosol Colognes

THE monthly magazine, *Consumer Reports,* usually hard on aerosols because of cost and malfunction complaints, devotes part of its August issue to a surprisingly fair discussion of aerosol colognes. Even the subhead to the article is optimistically titled "In the 25 brands tested, this newer packaging proved well suited to colognes."

This general tone of optimism prevails through a good portion of the article: "All in all, in CU's (Consumer Union's) test the aerosols showed up well against the conventional colognes. Though the practiced noses of CU's consultants were able to detect some differences among the various products of similar name, including the eight perfumes, they were in all cases judged quite close; where differences between the aerosol and conventional colognes were notable enough, they were mentioned in the individual ratings.

"Forgetting price for the moment, the aerosol packaging, in the judgment of CU's consultants, offered more advantages than disadvntages. In most cases, the fragrance produced a better effect when dispensed by aerosol; the odor compositions were often better integrated, lasted longer, and maintained their initial identity longer without change. Furthermore, it was the consultant's opinion that a more effective job of perfuming could be done with same amount, or less, of odorant — no doubt largely because the very fine aerosol dispersion permits more widespread scenting of the user than application of conventional colognes by atomizer or by drops."

Consumer Reports did have at least three reservations about aerosol colognes, all classed as minor by the authors of the article. The first of these is "occasional faulty packages," which are attributed to "the newness of the industry." Another complaint is "the general tendency of the uninitiated to apply too much fragrance with the aerosol," something solved satisfactorily, according to the article, by use of the metered valve. The third complaint stemmed from the fact that "every one of the aerosols flashed upon contact with an open flame," but the magazine writes this off merely as a warning that aerosol colognes not be used near a lighted match, candle, pilot light, or other open flame.

Aerosols scored well in the Consumer Union tests to detect fabric staining qualities. "Though practically any perfumery product can stain some fabrics under some conditions, the aerosols as a whole minimized this problem. CU applied the fragrances to white or natural-color swatches of acetate, silk, nylon, wool, and wrinkle-resistant cotton, allowed them to dry, and then pressed them lightly with a steam iron. Under these conditions, eight of the aerosols did not stain any of the fabrics. Where they did, it tended to be less noticeable, because the mist was evenly distributed over a wide area."

Cost is another factor that somewhat disturbs the authors of the article. They point out that "generally, the aerosol version was moderat more costly per ounce; in a cases, very much more costly. S where the price differential between the two types of packaging is not too great, CU would consider aerosols a very good buy."

Consumer Reports then proceeds to rate 25 of the popular aerosol colognes, rating them by perfume type (Orientals, Moderns, Forest Blends, Floral Bouquets, Single Florals, and Fruity), with each rated acceptable-very good, acceptable-fair to good, and acceptable-fair.

In the ratings, such characteristics as intensity of the perfume, character, long-or short lasting, etc., are considered. Chief complaints against some of the lower rated brands is "inharmonious balance of composition, weak-to-medium intensity."

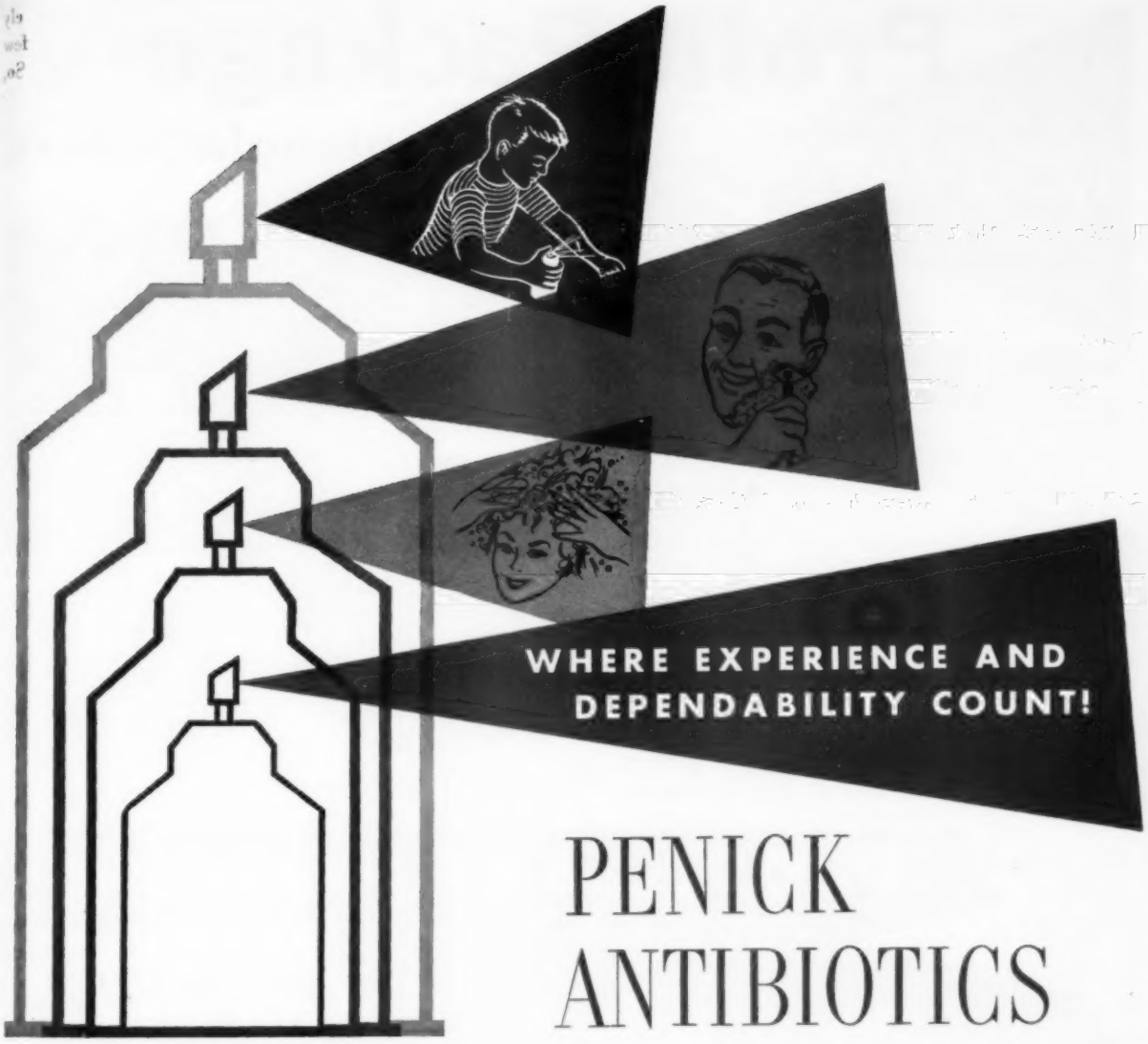
•

THE BRITISH trade publication *Food Manufacture,* in an editorial titled "Aerosolmania" in its July issue, takes a somewhat cynical look at the U. S. trend toward packaging so many new products in aerosol form:

"If you can't sell it in a bottle or a can, put it in an aerosol. This seems to be the philosophy that has so dramatically swollen the range of aerosol products in the U. S. A. As anything that appears in that country usually finds its way over here two or three years later, we shall soon be knee-deep in aerosol packs.

"According to one authority, the five most popular aerosol products in the U. S. are hair sprays, room deodorants, shaving lathers, insecticides and insect repellents. All are logical choices for pressure dispensing. But can the same be said for sauces, syrups, batter, cheese spreads, charcoal lighters, athlete's foot lotion and vitamins? The last item is particularly curious; what can be the reason for administering vitamins as a spray?

"Reading the catalogue of aerosol packs one gets the impression that in several cases it is novelty and not utility that is sought. That seems a pity, for misapplication is a sure



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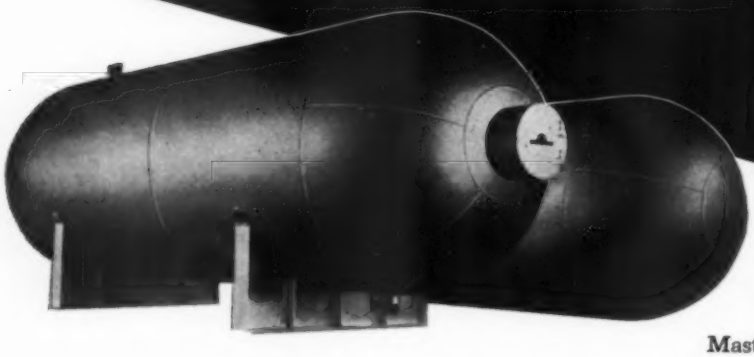

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way of discrediting a very useful invention. It would be wrong to give the public the impression that aerosols are just an excuse for a fancy pack and a high price."

•

AN AEROSOL fabric spray, "Fabspray" (a product of Nu-Color Corp. of America, Los Angeles), is rated and found somewhat wanting in the July issue of *Consumer Bulletin*. The major advantage of the product, the periodical contends, is ease of application, but even this was discounted somewhat by the fact that the person applying the product was exposed to "considerable inhalation." Other comments included:

"The quantity of spray material in one can was not sufficient to complete the job on one medium-sized Lawson-style armchair. Another drawback was that if the job is done at one time, it is quite tiring to hold one's finger on the spray nozzle continually. Badly faded areas were not completely rejuvenated. The color crocked considerably. Even after several weeks of drying, the crocking still took place. It would appear that the product would be suitable only on a rug—as is suggested in the advertising—or some other household item that would not come into contact with light colored garments and where a tendency to crock would not be a disadvantage."

•

NEOMYCIN, one of the leading candidates among the antibiotics for aerosol packaging, may cause damage to the cochlea of the ear if applied systematically as an aerosol. This is suggested by Dr. Alan Fuller, of the Royal National Throat, Nose, and Ear Hospital, London, in the May 7 issue of *The Lancet*, leading British medical publication. Dr. Fuller writes that damage to the cochlea "followed systematic therapy, particularly when there was renal dysfunction or concomitant damage to the kidney parenchyma. No case of deafness has been reported after topical application of neomycin."

Dr. Fuller declares that the toxic action consists of atrophy or destruction of the organ of Corti and degeneration of the stria vascularis and cochlea ganglion. He says that "severe impairment of hearing was also demonstrated in animals without pathological changes in the organ of Corti." He points out that the damage usually follows long-continued treatment, and that the deafness increases the longer the therapy is continued, and tends to exert its action after the drug has been discontinued.

Both of the cases described in the *Lancet* were girls (one five, one nine) suffering from cystic fibrosis

(*Continued on Page* 76)

EXPENDITURES for drugs, toiletries and similar products by the American public were up 8.7% in 1959 over the previous year, a new survey of consumer expenditures for drug store products has revealed. The survey was made by *Drug Topics* and appears in the July 25 issue of *Drug Trade News*.

In the toiletries classification, the study showed a figure of $3,108,440,000—an increase of 4.3% above the total for such products in the previous year. This difference in percentages is partly explained by the fact that another major drug department, prescriptions, recorded the highest gain (10.6%) over any other department.

Although only a few aerosol products were considered in the survey, nearly every one recorded a sales gain.

	1959		1958		1957	
PRODUCTS	Spending in All Outlets Civilian	Spending in Drug Stores Only	Spending in All Outlets Civilian	Spending in Drug Stores Only	Spending in All Outlets Civilian	Spending in Drug Stores Only
Athlete's Foot Medication	4,000	3,440	3,740	3,170	3,640	3,090
Poison Ivy Remedies	10,920	9,330	10,040	8,800	9,970	8,790
Personal Insect Repellents	5,460	3,320	4,980	3,030	4,960	3,020
Burn Remedies	11,290	2,280	10,400	7,680	9,490	7,200
Suntan Lotions and Oils	12,260	6,750	10,540	5,870	10,120	5,600
Waveset Preparations	5,830	1,550	5,930	1,560	5,560	1,530
Depilatories	5,920	3,850	5,480	3,560	5,350	3,480
Spray Hair Fixatives	76,150	32,010	81,500	38,370	82,540	39,760
Shaving Cream	65,670	26,850	62,300	26,190	59,600	25,770
Brushless	11,190	5,230	12,100	5,690	12,800	6,010
Aerosol	44,520	17,540	39,540	16,040	36,000	15,220
Lather	9,960	4,080	10,660	4,460	10,800	4,540
Perfumes	35,470	9,500	33,070	8,910	31,330	8,750
Toilet Water and Cologne	84,220	27,330	73,870	23,930	65,170	21,000
Stick Colognes	3,960	930	4,090	960	4,470	1,040
Aerosol Cologne	46,050	14,690	37,620	12,470	30,620	9,910
Other Colognes, Toilet Waters	34,210	11,710	32,160	10,500	30,080	10,050
External Personal Deodorants—Aerosols	670	300	670	300	740	350
HOUSEHOLD PESTICIDES						
Aerosols	64,600	13,970	52,130	12,300	43,950	11,200
Moth Control Agents	3,550	1,910	3,170	1,730	2,550	1,560
Space Sprays	35,960	5,620	27,190	4,810	22,360	4,250
Surface Sprays	18,440	4,710	15,710	4,130	14,060	3,940
All Other Aerosol	6,650	1,730	6,060	1,630	4,980	1,450
Furniture and Auto Polishes	65,490	490	62,860	470	59,810	460
Household Deodorizers	55,440	6,660	51,180	6,190	46,960	6,150
Aerosol	45,440	4,700	39,460	3,850	31,480	3,220
Others	10,000	1,960	11,720	2,340	15,480	2,930

news of pressurized packaging

FTC Cites Colgate Advertising

The Colgate-Palmolive Co., New York, has been ordered by an examiner for the Federal Trade Commission to stop saying its "Colgate Dental Cream" with Gardol provides protection against tooth decay. Leon R. Gross, FTC examiner, ruled last month that Colgate's "invisible protective shield" advertising constitutes "a false, misleading, and deceptive portrayal of the true properties" of the company's toothpaste. A company spokesman said that Colgate intends to appeal the ruling.

Last Nov. 19 Colgate received a formal FTC complaint charging it with deceptive advertising. At an estimated cost of $100,000, the company's agency, Ted Bates & Co., changed Colgate's commercials to remove the "invisible shield" theme. According to Mr. Gross, this deletion was not sufficient to warrant dismissal of the FTC charges. He said that "The evidence in this record does not support a finding that the respondent will not, in the future, unless restrained by this commission, misrepresent the true properties, and caries-inhibiting value, if any, of Colgate Dental Cream with Gardol."

In its reply to the ruling, a Colgate-Palmolive spokesman said that the degree of protection against tooth decay afforded by the product was not in question and not an issue in the case. "The sole issue in the case," the spokesman contended, "was whether the shield implied complete protection against tooth decay. Colgate-Palmolive has never claimed or intended to imply complete protection for any of its dentifrices. As a matter of fact, Colgate proposed the stipulation, which appears in the record of the hearings and was agreed to by counsel for the commission, that no dentifrice on the market affords the users thereof complete protection against tooth decay or the development of cavities in their teeth.' "

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Arndt to Puritan Aerosol

David G. Arndt has been named New York district sales manager for Puritan Aerosol Corp., Boston, Mass. custom filler. From headquarters at 2 Alden Place, Bronxville, N.Y., he will help direct and implement the company's current sales expansion program. He was formerly a member of the "Ucon" propellant marketing group at Union Carbide.

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Revlon Leases New Plant

Revlon, Inc., New York, has leased a 36,000 square-foot, one-story modern building in Metuchen, N. J., to manufacture pharmaceutical, proprietary and miscellaneous cosmetic items. The plant is on a 4.72 acre plot at 159 Forrest Street, Metuchen. It was leased from Flight Support, Inc., a subsidiary of Pacific Airmotive Corp., Burbank, Calif.

Total anticipated employment was not estimated. Revlon currently employs about 2,000 at plants in Edison, Passaic and Irvington, N. J.

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Charbert Names New Officers

Charbert Distributors, a division of Intercoastal Merchandising Corp. and distributors of Charbert cosmetics and toiletries, last month named Bert Gross president and Herman R. Spiegel executive vice-president. Mr. Gross had been president of G. & L. Sales Corp., another Intercoastal Division, and Mr. Spiegel was vice-president of The Hecht Co., Washington, D. C.

'Boyle-Midway Names 2 VP's

Melvin Birnbaum was promoted to vice-president of merchandising and Jack Bishop to vice-president in charge of new product development of the Boyle-Midway division of American Home Products Corp., New York aerosol marketer.

Mr. Birnbaum will direct the marketing activities of brand managers and management of all brands. He joined American Home Products in 1959 as assistant to the president, after 13 years with Knomark Inc., where he rose from advertising manager to executive vice-president.

Mr. Bishop will be responsible for all test products in addition to the handling of "Aerowax." He came, in 1959, to Boyle-Midway as brand manager of "Aerowax" and "Sani-Flush," from Young & Rubicam, Inc., where his experience was concentrated in soap and food accounts. Before entering the advertising agency he was assistant general sales manager to Grocery Store Products Co., West Chester, Pa.

•

DuPli-Color Appoints Kendall

Stanley E. Kendall has been appointed technical director of Dupli-Color Products, Inc., Chicago manufacturer of automotive and household paints. Formerly chief chemist for a major midwest aerosol paint manufacturer, he has had 12 years of aerosol paint formulation experience. He will supervise acceleration of the company's formulation methods in its expanded laboratory facilities. New formulation laboratories, part of the new 60,000 square-foot Dupli-Color plant at Elk Grove, Ill., will be completed early in December. A veteran of service with the Fifth and Far East Air Forces during World War II, Mr. Kendall holds a bachelor of science degree in chemistry from Northwestern University.

Swedish Filler Names Medlundh

B. Medlundh has just been appointed vice-managing director of Scandinaviska Aerosol AB, Stockholm, largest custom loader in Sweden. Joining the company in 1953, Mr. Medlundh was in charge of production at its Norrkoping plant. When the company's facilities were expanded and moved to Stockholm in 1958, he was named sales manager. His new post includes prime responsibility for technical development and production.

Succeeding Mr. Medlundh as sales manager is Per Eriksson, who had been an engineer.

•

Yardley Begins New Plant

Construction of a new $2.5 million plant in Totowa, N. J., for Yardley of London, Inc., began last month. The building concept for the plant was prepared by Edward D. Stone, world-famous architect and designer of such buildings as the U.S. Pavillion at the 1958 Brussels World's Fair, Radio City Music Hall, and the new U.S. Embassy in India. Engineers Inc., of Newark, N. J., provided engineering design for the 236,000 square-foot plant.

Louis L. Brennesholtz, Yardley's manager of operations, said construction will take at least a year. To be located on a 30-acre plot off Union Boulevard, it will replace Yardley's plant at Union City, N. J. It is said to be a "radical departure from standard industrial planning designed to complement the campus-like wooded tract on which it is located."

A feature of the area will be an expansive paved plaza with pool and fountain at the entrance. The entire building will be faced with white brick, with eight-foot windows in the office area and wide use of decorative screens. Two garden quadrangles, each 200 feet square with covered colonnades, will adjoin the administrative offices. Manufacturing facilities will be located on the second story, with both manufacturing and administrative sections to be air-conditioned.

Yardley is a 300-year-old firm with plants in such cities as Toronto, Paris, Capetown, Sydney, and Mexico City. Its current line of cosmetics, soaps, deodorants and powders, includes aerosol shave cream, cologne, and after shave lotion.

•

Hardware Show Scheduled

The National Hardware Show, scheduled for Oct. 10-14 at the New York Coliseum, is expected to attract 45,000 buyers. The show's management estimates that more than 1,000 new products, new packages and new promotions will be unveiled at the show. The first two floors of the Coliseum will feature hardware, housewares and allied items and the third and fourth floors will be devoted exclusively to lawn, garden, and outdoor living.

•

William Wheeler Is Dead

William Wheeler, 73, president of Airkem, Inc., New York manufacturer of "Air Wick" and other deodorizers, died July 23 in Poughquag, N. Y. His company markets a line of aerosol room deodorants all over the U.S. and throughout Europe.

To replace the late Mr. Wheeler, Airkem announced the election of John A. Monkman as chairman and chief executive officer. Frank W. Conkling was named president.

•

Pond's Appoints Holliday

Dr. William Holliday has been named director of research and development for all products by Chesebrough-Pond's, Inc., New York cosmetics marketer. He had been manager of the company's Clinton (Conn.) laboratories and at the same time supervisor of research personnel at other plant locations.

•

Black to Canco Post

Appointment of Alexander Black as manager of the Canco Division's Marketing Division was announced by American Can Co., New York. He formerly was western area manager of sales for the Canco Division, with headquarters in San Francisco. He was educated at St. Lawrence University and during World War II served as a Navy lieutenant.

Kotuby Joins Risdon

Paul M. Kotuby, a mechanical engineer, has joined the research staff of the Risdon Manufacturing Co., Naugatuck, Conn. He will devote his time primarily to research and development work in the field of aerosol valves and pressurized packages. In addition, he will be concerned with the design and development of other new products.

A native of Proctor, Vt., Risdon's new research engineer is a mechanical engineering graduate of the University of Connecticut, and an associate member of the American Society of Mechanical Engineers. Before joining Risdon, he did research and development work for two years at the Singer Manufacturing Company.

•

Colgate Plans New Warehouse

The Colgate-Palmolive Co., New York, has broken ground for a 17,000-square-foot addition to the toilet articles warehouse at its Kansas City plant in a new move to speed service for the company's Midwestern customers. F. L. Stephens, director of manufacturing for the Toilet Articles Division, pointed out that finished goods will be stored in the one-story annex to be readily available to the nearby shipping operations.

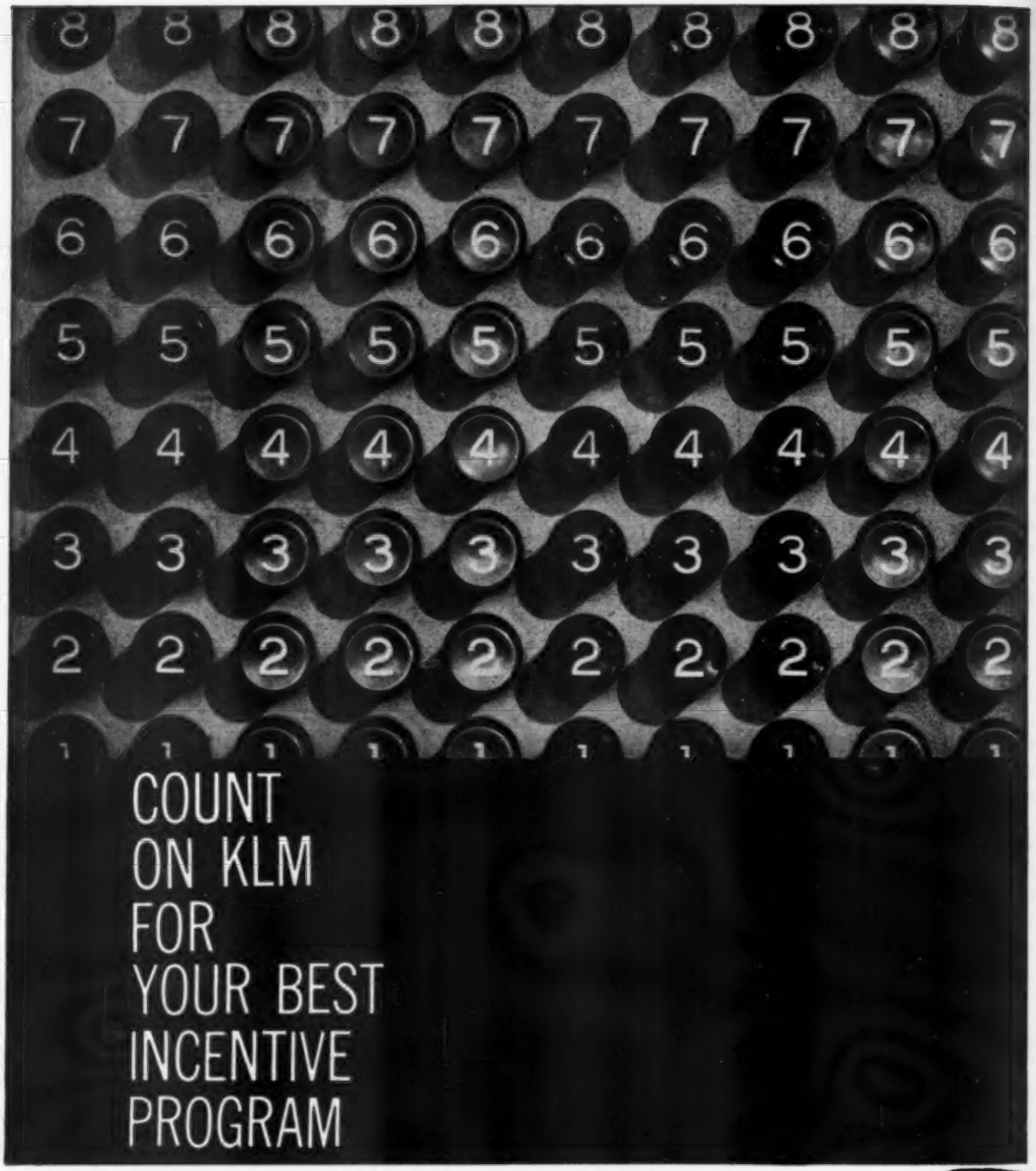
Measuring approximately 211 feet long by 81 feet wide, the new structure will have speedwall tile walls, a poured gypsum roof, and window treatment to match the existing building. The construction project, expected to be completed late this year, also will involve the relocation of an existing plant road and several plant sewer lines.

•

Mera Is Babbitt VP

John T. Mera has been elected vice president of B. T. Babbitt, Inc., New York household products marketer. Controller since joining the company in 1957, he will continue in that post.

Prior to joining B. T. Babbitt, Mr. Mera had been controller of S. H. Pomeroy Co. for two years. He has also been associated with the Melrose Hospital Uniform Co. from 1952 to 1955, and the Quaker Maid Division of the Great Atlantic & Pacific Tea Co.



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Packaging Forum Program Is Listed by Packaging Institute

MORE than 1,500 packaging professionals from coast to coast are expected to attend the Packaging Institute's 22nd annual National Packaging Forum, which is scheduled for the Statler-Hilton in New York from Oct. 31 to Nov. 2. According to Roy W. Abling, of Merck Sharp & Dohme Division of Merck & Co., chairman of the forum, a total of 50 recognized packaging experts will present professional papers at the forum.

For the person in aerosol packaging, one of the more lucrative sessions of the forum is the one titled "Drug and Pharmaceutical Session," scheduled for all-day Tuesday, Nov. 1. The afternoon part of the program will develop the theme "Exploding Use of Drug and Pharmaceutical Plastic Bottles in the 60's." The four experts making up the panel include Anthony Iannacone, technical director of Fluid Chemical Co., who will report on his company's "growing pains" in adapting plastic bottles to high speed production lines. Carl F. Massopust, of the Chemical Division of Rexall Drug Co., will present the manufacturers viewpoints on raw materials, fabrication and finished product production. W. O. Bracken, plastic sales development of Hercules Powder Co., will give a brief history of the technical development of blow molding plastic containers, manufacturing, facilities and equipment. W. J. Graham, of the Blown Plastics Division of Owens-Illinois, will describe the future of plastic containers.

Also of interest to the aerosol packager or marketer will be the session on "Production Line and Machinery" also scheduled for Nov. 1. Feature of this session will be a morning paper by Morris J. Root, technical director of G. Barr & Co., on the advantages and disadvantages of various propellants and the art of flooding with inert gases.

•

Jatul to Colgate Lab Post

The appointment of Dr. Bernard B. Jatul as supervisor of laboratories for the Colgate Pharmaceutical Laboratories Division has been announced by the Colgate-Palmolive Co., New York. He will oversee the research programs undertaken at the division's Pharmaceutical Laboratories in New Brunswick, N. J.

Before assuming his new Colgate-Palmolive position, he served as manager of the pharmaceutical chemistry department at Schering for approximately four years. He was assistant director of pharmaceutical research at Sharp & Dohme for six years prior to that.

A graduate of Massachusetts College of Pharmacy, Dr. Jatul obtained his M.S. degree in pharmacy from Purdue University and his doctorate in pharmacy and pharmacology from the University of Florida where he was elected to Phi Kappa Phi, honorary scholastic society, and Rho Chi, pharmacy's honor society.

•

Granata to Pure Carbonic Post

A. J. Granata has been named vice-president in charge of product application and development of the Pure Carbonic Co., a division of the Air Reduction Co., New York. The company supplies carbon dioxide and other gases.

•

Sterling Drug Names Miller

Ralph T. Miller Jr. has been elected president of the House of Huston, Inc., a subsidiary of Sterling Drug, Inc., New York, which markets a line of aerosol and conventional pet products. Since 1956, he has been vice-president of the House of Huston.

•

Kinsley Named by Colton

Lewis H. Kinsley has been named engineer of the Arthur Colton Co., Detroit. Associated with Colton as chief engineer-packaging machines since he joined the firm early last year, before that he was vice president in charge of engineering and sales for Hope Machine Co., which was purchased by Arthur Colton in March of 1959.

Lewis H. Kinsley

In his new position, Mr. Kinsley will direct the engineering and development of all Colton products including all Colton-Hope filling and Colton packaging machines.

•

Kaiser Appoints J. F. Delaney

Kaiser Aluminum & Chemical Sales, Inc., Oakland, Calif., has named John F. Delaney manager of can sales. He will be responsible for sales of aluminum stock to aerosol and conventional can manufacturers. He had been can sales representative in New York City.

•

Garden Show Scheduled

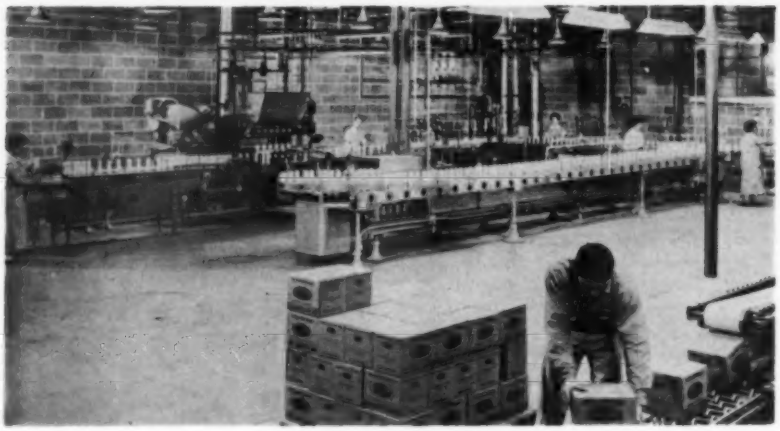
A number of aerosol marketers will be among the exhibitors at the first Mid-America Lawn, Garden & Outdoor Living Trade Show scheduled for Nov. 13-15 at Chicago's Navy Pier. Calculated to attract buyers and retailers throughout the West and Midwest, the show is said to be the only such trade show to be held in the Midwest this year. Among the aerosol marketers are Amchem Products, Inc., American Agricultual Chemical Co., the Boyle-Midway Division of American Home Products Corp., California Spray-Chemical Corp., E. I. du Pont de Nemours & Co., Nott Manufacturing Co., B. G. Pratt Co., Science Products Co., and Stim-U-Plant Laboratories, Inc.

•

IFF Plant Wins Award

The Elizabeth, N. J., plant of International Flavors & Fragrances, Inc., New York, has been awarded third prize in the Chemical Section in the Safety Award Contest conducted by the National Safety Council. According to Joseph Brennan, company personnel director, the plant had a perfect record of no lost-time accidents during 1959.

Thomasson Lists Details of New Pressure Filling Unit



THOMASSON of Pa., Inc., Norristown, Pa., custom filler, has announced further details of its new aerosol production line, which is said to employ the latest in aerosol loading and packaging equipment. Pressure filling equipment was selected, the company revealed, to eliminate moisture problems associated with cold filling equipment. Also eliminated is the bulky heat exchanger to chill the ingredient in most cold filling operations.

An intricate system of multiple supply piping loops, each with its own pumps, reportedly allows the handling of many types of concentrates without contamination. Stainless steel product hopper and filler allow complete cleaning and wash-up after any product.

Crimper and gasser for the new installation are rotary units, which were selected to give the line its relatively high production speed of 120 six-ounce containers of paint or lacquer per minute.

The production line is shaped similar to a lower script "n," where the end of one leg serves as infeed and the end of the other as discharge. This was done, the company reports, to allow one fork-lift truck to service the entire line from the same direction. The filling line is isolated from the warehouse by fire walls and fire doors. The many pumps and compressors are also separated from it by walls, and many of the conveyors, transfer tables, the filler, crimper and gasser are electrically interlocked so that the pushing of one of several buttons along the line will stop whole sections of the line.

ADA Approves P&G's "Crest"

"Crest" toothpaste last month became the first dentifrice to receive official recognition by the American Dental Association as "an effective decay-preventive agent." The product, marketed by Procter & Gamble Co., Cincinnati, has been on the market for five years, and is also marketed in a pressurized package.

The ADA recommendation was based on seven clinical tests with toothpastes. The ADA statement said that Crest "has been shown to be an effective anticaries dentifrice that can be of significant value when used in a conscientiously applied program of oral hygiene and regular professional care." The association statement added that stannous fluoride, main ingredient in the product, was merely an aid rather than a cure-all in combating dental decay.

•

Norwich Buys Dutch Firm

Norwich Pharmacal Co., Norwich, N. Y., marketer of aerosol shave cream and pharmaceutical products, has purchased Orgahell, N. V., Amsterdam fine chemicals manufacturer, to give it manufacturing facilities within the European Common Market. Production facilities of Orgahell, located at Mijdrecht, will be used by Norwich Pharmacal to manufacture its nitrofuran chemicals for use in human and veterinary pharmaceuticals.

•

Scodari to Mennen Post

Nicholas F. Scodari has joined The Mennen Co., of Morristown, N. J., as senior research chemist. Prior to this time, he has been associated with Block Drug Co., of Jersey City, N. J., and with Carroll, Dunham, Smith of New Brunswick, N. J. He brings with him an extensive background in research and development, and is a graduate of Long Island University, holding a B.S. degree. He has also taken special advanced courses at Rutgers University.

•

Abbott Appoints Brennan

John J. Brennan, field sales manager of the Chemical Marketing Division of Abbott Laboratories, North Chicago, Ill., has been appointed sales manager. Robert G. Morton, formerly assistant field sales manager, was promoted to field sales manager.

Mr. Brennan joined Abbott in 1951 as a special representative after receiving his B.S. degree in pharmacy from the University of Colorado. He was made assistant sales manager in 1956 and field sales manager in 1958.

Mr. Morton attended the University of Chicago and joined Abbott in 1955 as a sales representative. He was made assistant field sales manager in 1959.

•

Paules to Beckman Post

Paul E. Paules has been named Western regional manager for the Scientific and Process Instruments Division of Beckman Instruments, Inc., Fullerton, Calif., manufacturer of gas chromatographs and other aerosol laboratory instruments. He will manage sales and service operations for the Division's western region, which includes Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Texas, Utah, Washington, western Canada, Alaska, and Hawaii.

New Merger Details Announced

Further details of the joint venture of American Can Co. and Wheaton Glass Co. to form a new glass company were made public recently by William C. Stolk, chairman and chief executive officer of American Can. He revealed that the new company, to be called the American-Wheaton Glass Corp., will operate plants initially at Terre Haute, Ind., and Minneapolis, Minn. The company will operate as a majority owned subsidiary, with a minority interest held by Wheaton.

Mr. Stolk explained the new working relationship in these words: "It seemed to us that, having no plants or equipment for manufacturing glass containers, we should start out by creating the most modern facilities and machinery available. What was not available was the glass manufacturing know-how. Our study of the problem indicated that if we could obtain such know-how by interesting one of the successful glass companies in joining with us in this venture, our objective would be more quickly realized.

"Investigation revealed that the Wheaton family, which has been in the business for 75 years, concentrating in production of pharmaceutical and cosmetic glass containers, and which had established itself among the best in the industry, represented the type of associate we needed to supply us with their extensive know-how."

•

Toni Names Brand Mgrs.

James F. Ackly and John R. Carr have been appointed brand managers of The Toni Co., Chicago. Prior to joining Toni, Mr. Ackly was with the Grey Advertising Agency in New York City, as an account executive. He has also served in that capacity with Warwick & Legler Advertising Agency and with the Roy S. Durstine organization in that city.

Formerly, Mr. Carr was responsible for the advertising and promotion activities of Quality Bakers of America. He has also served as marketing director for the Anderson-McConnell Advertising Agency in Hollywood, as product manager at Revlon in New York City, and with the Packaging Division of Olin Mathieson as product manager.

•

Lehn & Fink Buys Noreen

Lehn & Fink, Inc., New York cosmetics marketer, recently announced the purchase of Noreen, Inc., Denver, and its subsidiaries. This is Lehn & Fink's second expansion into the hair product field, the previous one having been the purchase of Ogilvie Sisters in 1958. Noreen operations will continue in Denver under its present management.

•

Haskell Joins F. L. Burt

The F. L. Burt Co., San Francisco manufacturers of aerosol filling equipment, has announced the appointment of J. T. "Jim" Haskell as sales manager. He was formerly associated with his father, Thurlow Haskell, as a manufacturers' representative in Northern California.

Can Production Way Up

Can manufacturers, the nation's third largest steel consuming industry, used a total of 4,948,955 tons of steel during 1959, a new report by the Can Manufacturers Institute revealed last month. Despite labor and supply problems, the total of 43,253,867,000 cans produced last year was an all-time record. Per capita consumption of metal cans last year reached 254, with increase in production for soft drinks, beer, oil, meat and poultry, aerosols, and pet foods.

The complete 28-page report is available by writing to the Can Manufacturers Institute, Suite 1100, 551 Fifth Ave., New York 17. It is called "Annual Report of Steel and Tin Consumed in Metal Cans."

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Yardley Advances Brennesholtz

Louis Brennesholtz, former manager of operations, has been named to the newly-created position of vice president in charge of production by Yardley of London, Inc., New York.

IFF Flavor Division Consolidates Operations

The IFF plant at Teterboro, N. J.

THE Flavor Division of International Flavors & Fragrances, Inc., last month announced an expansion and consolidation of activities at its Teterboro, N. J., plant. The program, projected on a three-year basis, will not only substantially increase production capacity and research facilities but will lead to the consolidation of all United States flavor activities at this location. Presently, the headquarters of the domestic Flavor Division is at Elizabeth, N. J., where limited space made necessary a transfer of these operations to the company's larger site at Teterboro.

The program, in its initial stages, includes increases in production capacity for processing natural fruits, vanilla extracts, and other flavors in the IFF line, an additional spray-dry unit, and enlarged service facilities and power plant. Over 14,000 square feet of production space will be added at the Teterboro plant during the next six months. The company said that further expansion of the Teterboro facility will get under way shortly after the present construction program is completed. At that time the company plans the addition of a Flavor Division administration building and a research center. Both are now headquartered at Elizabeth.

Anderson to Colgate Post

The appointment of Paul J. Anderson as plant manager of its Toilet Articles Division, at the Jersey City plant of the Colgate-Palmolive Co., was announced last month by the company's New York headquarters. Formerly chief industrial engineer of the Household Products Division, he succeeds Robert L. Ehrlich, who has been named plant manager, Household Products Division, at the company's Kansas City plant.

Joining Colgate-Palmolive shortly after he received a B.S. degree in engineering at Iowa State College in 1942, Mr. Anderson served as an industrial engineer at the Kansas City plant and then held positions of increasing importance. As plant manager for the Toilet Articles Division, Mr. Anderson will supervise the production, warehousing, and shipping of such well-known toiletries as "Colgate Dental Cream," "Halo Shampoo," "Lustre-Creme" shampoo, the Palmolive and Colgate Men's lines and "Cashmere Bouquet Talc."

The Household Products Division announced the appointment of William T. O'Neill to succeed Mr. Anderson as chief industrial engineer. Mr. O'Neill previously served as the Household Products Division's supervisor of industrial engineering at the Jersey City plant.

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Baer Joins Non-Aerosol Firm

Jean Baer, former manager of Sprapak Chemicals, Inc., Brooklyn, N. Y., last month was named manager of manufacturing of Julius Kupfer, Inc., makers of Christmas tree sets and other electric specialties. He will be responsible for the production and control of all present operations, and for the development of further expansion of the company's facilities.

Prior to his association with Sprapak, Mr. Baer was New York district salesman for Pennsalt Chemicals' "Isotron" aerosol propellants. Before that he was with Geo. Lueders, Inc. and van Ameringen-Haebler, Inc., before that company became a division of International Flavors & Fragrances, Inc. He is a graduate of Columbia University and has been active in the Society of Cosmetic Chemists, the Society of Pharmacists in Industry, and the Packaging Institute. An announcement from Julius Kupfer said he "will continue to act as consultant to the chemical and aerosol industries."

•

N. Y. SCC Shifts Meetings

The N. Y. Chapter of the Society of Cosmetic Chemists has announced a new meeting place for its monthly dinner and lectures. The Hotel George Washington, Lexington Avenue and 23rd Street, has made available its Regency Room with adjoining patio for cocktails. The Hotel George Washington is conveniently located in the Gramercy Park section close to subway lines and parking facilities, and will afford an appropriate atmosphere for the meetings.

As heretofore, these meetings will be held on the first Wednesday of the month, beginning Sept. 7. A price of $4.50 has been established for the six-course dinner, and a varied cuisine has been promised.

The first speaker of the fall program will be Dr. Wilhelm C. Hueper, from the National Cancer Institute, whose topic will be "Potential Cancer Hazards from Cosmetics to Producers and Consumers." Dr. Hueper, chief of the Environmental Cancer Section, is the recent recipient of the Rosenthal Award for his study of the causes of cancer in man. Since the early 1920's Dr. Hueper has been studying the exogenous causes of cancer in man and was one of the first to call attention to the possible hazard of X-rays and to pinpoint naphthylamine as cancer producing. His book, "Occupational Tumors and Allied Diseases," published in 1942, is a standard text on the subject.

The meetings for the remainder of the year will be on Oct. 5th, with Dr. Steven Jellinek as speaker, and Nov. 2nd, the President's Night.

Jergens Appoints Lindquist

Expansion of The Andrew Jergens Company Research Laboratories in Cincinnati and appointment of J. Raymond Lindquist as research director were announced by Franklin G. Meeker, executive vice president.

Mr. Lindquist had been in charge of research for Thayer Laboratories, New York City, a division of Revlon, Inc. Prior to this, he was director of research and development for Rexall Drug Co., Los Angeles, and with the United States Department of Agriculture.

Other appointments, from the present Jergens research staff, are: Dr. Philip D. Adams, director of special projects; Shuler Howard and Charles Lohman, associate research directors.

Plans for the improvement and expansion of laboratory facilities at the Jergens Cincinnati plant to twice their present size have been approved, with work slated to start immediately. As soon as completed, additional personnel will be added to the Jergens research and development staff.

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Ellis Joins Dewey & Almy

The appointment of Donald T. Ellis as general manager of its Container and Chemical Specialties Division has been announced by the Dewey and Almy Chemical Division, W. R. Grace & Co., Cambridge, Mass. Mr. Ellis joined Dewey and Almy in 1959 after serving in various managerial capacities with Willys Overland Motors and the Ford Motor Co. He received a B.E. degree in civil engineering from the University of Toledo in 1943.

The Container and Chemical Specialties Division manufactures sealing compounds for tin cans, aerosol mounting cups, glass jar closures, bottle crowns, etc.

•

Name Merchandising Mgr.

Yardley of London, Inc., New York, last month announced the advancement of Marie McMurray to the position of promotional materials manager. With Yardley for nine months, she was formerly assistant to the merchandising manager.

In her new capacity, Mrs. McMurray will be responsible for the development and purchasing of all point of sale material, selling aids, and other visual merchandising materials. Prior to joining Yardley, she was with Prince Matchabelli-Seaforth for nine years.

•

DDT-Resistance a Weakness

Anopheles mosquitoes immune to DDT will likely show evidence of increased susceptibility to phenyl thiourea, Dr. Anthony W. A. Brown, head of the Department of Zoology of the University of Western Ontario and world renowned expert on insect resistance, told a recent meeting of the Industrial Council for Tropical Health.

Dr. Brown based his theory on studies conducted with Drosophila (fruit flies) in which the same infrequently appearing gene that imparted resistance to DDT also gave the fly increased susceptibility to phenyl thiourea. He reported that a mixture of the two insecticides was repeatedly demonstrated to be capable of killing all the flies. He urged more fundamental research on resistance in the areas of genetic origins, biologic and physiologic defense mechanisms, and the speed and extent to which resistance may spread.

•

Narus Joins Mennen Co.

The Mennen Co., Morristown, N. J., marketer of shaving creams and other products for men, last month named Stanley T. Narus as consumer analyst with the market research department. He was formerly with Colgate-Palmolive Co.

•

Shulton Names Di Scala

The appointment of Eugene Di Scala as art director—packaging, has been announced by Shulton, Inc., Clifton, N. J. He will be in charge of packaging design for the company's domestic and international divisions.

He joined Shulton in 1957 as an artist. Prior to that he was assistant artist and designer for Shell Oil Co., and an artist designer for Sudler and Hennessy, Inc.

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- **Foods**
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- **Other household pressurized products and related chemical specialties**

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Scientific Research. The CSMA actually establishes laboratory methods for testing.

Legislative Help. Of utmost importance today, the CSMA alerts its members to pending legislation that may affect them. They also work closely with the Federal and State governments on standard specifications . . . labeling . . . and the development of model bills.

Market Help. The CSMA keeps its members abreast of the markets and its trends through an annual survey of production in each of its six divisions.

Why not join forces with those whose objectives parallel your own? For more information about the CSMA and how you can join, write: Chemical Specialties Manufacturers Association, 50 East 41st Street, New York 17, N. Y.

CHEMICAL SPECIALTIES MANUFACTURERS ASSOCIATION, INC.

AEROSOL DIVISION

equipment processes bulletins

Alsop Unveils New Filter

A new line of portable filters designed for use in aerosol, pharmaceutical, and cosmetic plants has been introduced by the Alsop Engineering Corp., Milldale, Conn. Called the "SD" and the "PAK" filters, the units are made of stainless steel construction with electric motor drives. The "SD" filters are designed for submicron filtration and employ inert asbestos-cellulose discs. The media is said to be hygroscopic and capable of removing minute traces of moisture in non-aqueous liquids.

•

Second Edition of Aerosol Book

A second edition of "Pressurized Packaging (Aerosols)," by Alfred Herzka and Jack Pickthall, will be ready some time this fall, Butterworths Scientific Publications, London, and Academic Press, Inc., New York, co-publishers, have announced. The first edition of the volume is now out of print.

The second edition will contain additional material on compressed gases, on pharmaceuticals, and a new section on legal considerations, embracing a patent bibliography and full details of laws and regulations governing aerosol packaging.

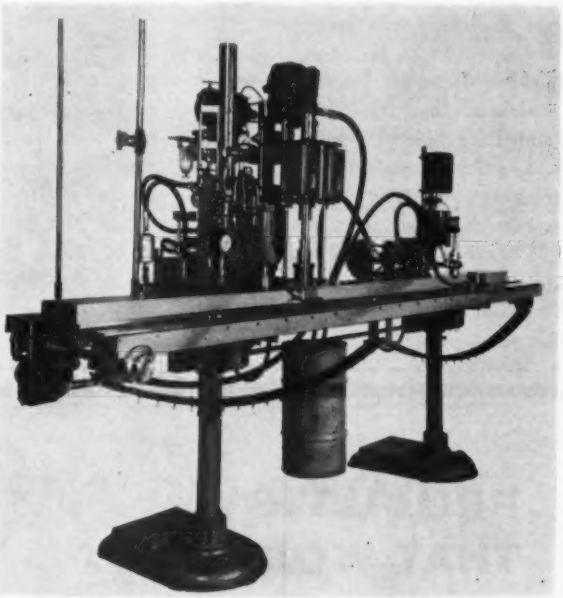
•

Offer New Lanolin Derivative

"Solulan C-24," a new type of lanolin derivative, has been put into full-scale production by American Cholesterol Products, Inc., Edison, N. J. The material, a soluble cholesterol, is a stable, 100% active, water and alcohol soluble form of cholesterol. It is said to have balanced hydrophilic and hydrophobic properties for optimum solubility in all types of topical preparations, including clear aqueous and alcoholic vehicles and emulsions.

American Cholesterol suggests that it will find use as an emollient and auxiliary emulsifier for lotions, creams, hair dressings, baby toiletries, topical pharmaceuticals, and similar products. It is pointed out that its ether structure provides stability over a wide range of pH, plus compatibility with cationics, dyes, thioglycollates, hair rinses, antiperspirants, etc.

Wisconsin Firm Introduces New Aerosol Filler



A production aerosol filling machine suitable for aerosol paints has been developed by the Kurek Engineering Co., 5201B University Ave., Madison 5, Wis. Designed for fast change-over, easy clean-up, and low air consumption, it has a product filler, with neither hopper nor float ball to clean out, which fills directly from a drum. The mechanical crimper uses no air and is synchronized with the conveyor drive. The propellant filler is driven hydraulically, using air only for control valves. Clutch on drive motor reportedly permits fast indexing and automatic propellant filling even on slow filling valves.

The machine is adjusted for can height by a single crank, which positions the center section on which all the components heads are mounted. Extra space on the center section permits installation of other components such as a ball dropper, purger, additional propellant filler, etc. without lengthening the line.

Government Purchasing Booklet

Guides on selling to or buying from the United States Government, as well as basic information on specifications applying to Federal contracts, are contained in a 116-page publication just issued by the Small Business Administration. The publication, entitled "U. S. Government Purchasing, Specifications and Sales Directory," is a revision and expansion of previous SBA booklets of a similar nature. Copies of the publication are available at 60 cents each from the Superintendent of

Documents, U. S. Government Printing Office, Washington 25, D. C.

The information presented in the publication has been revised by SBA and Government purchasing agencies to reflect changes in the products and services bought, in purchasing office responsibility, and in sources of Government specifications since publication of a similar SBA directory in 1958. In addition, the directory has been expanded to include information on Government property sales. A new section is devoted to the types of property sold by the Government, the methods of sales, location of sales installations.

•

Airkem Expands English Line

Airkem, Inc., New York, has expanded its line of aerosol products sold in Great Britain to four different products. Included are a moth-proofer, fly killer, mist air freshener and floral mist. All are packaged in Metal Box containers and caps, with Precision valves also made by Metal Box Co.

Environmental Test Cabinet

Labline, Inc., Chicago, has announced production of an improved reach-in environmental cabinet designed specifically for industrial and

package testing. It comes in two temperature ranges: 40°F. to 140°F., and room to 140°F. The new unit provides 60 square feet of shelf area on five shelves, yet requires only 15 square feet of floor space. It is said to eliminate the need for multiple, bench top cabinets, and comes completely set-up, with no assembly required.

The cabinet is designed for easy access to the test samples, and may be used for conducting ageing tests, for the preservation and storage of samples and for specific gravity determinations. Features include all-aluminum interiors, fluorescent lighting, dual thermostats, double doors, adjustable shelving, and no internal ducts or louvres. Each of the five aluminum shelves measures 6 feet by 2 feet. The unit has a quadruple, Thermo-Plate heater with built-in air diffusers that assure uniform temperatures throughout the chamber. Double-wall construction with 3-inch glass wool insulation is used throughout. Doors are mounted on refrigeration-type hardware with dual gaskets for effective sealing.

•

Seymour Perfects New Formulatio

Representing what its manufacturer terms a "major breakthrough in paint chemistry," a new lead-free alkyd enamel in easy-to-use, self-spraying aerosol containers combines the fast-drying advantages of lacquer with the superior hiding power and durability of enamel.

The new product, a vinyl-modified alkyd enamel developed after several years' research by chemist Rudy Albrecht of the Sycamore (Ill.) firm of Seymour of Sycamore, dries completely tack-free in 10 minutes, as compared with the 4 to 6 hour drying time required for conventional enamels. That means, Mr. Albrecht explains, that a second coat of the spray product can be applied after only 10 minutes, with none of the tendency of lacquers to lift sub-coatings.

Available in white and 27 colors, the spray enamel has almost twice the hiding power of lacquers, according to its manufacturer, and provides a smooth finish with an exceptionally high gloss. Its good flow-out and fast-dry properties minimize the possibility of orange peel or sag. These features are expected to make it ideal as a touch-up tool for industrial use and for commercial applications such as spot refinishing of appliances damaged in assembly, handling or installation. "Freon" is the propellant.

PRODUCTS THAT WORK BEST DEPEND ON ACTION

Manufacturers with the out-in-front products specify ACTION PLASTICS dip tubing more than any other brand. The reason is obvious to anyone who has experienced our consistently reliable performance.

We make more than 150 different tube types . . . in varying diameters, wall thicknesses or formulations.

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DIP TUBING FOR
AEROSOLS
ATOMIZERS
SQUEEZE BOTTLES
LOTION PUMPS
GARDEN SPRAYS

ACTION PLASTICS, INC. 50 CALIFORNIA AVE. PATERSON 3, N. J.

Subsidiary of Colorite Plastics of New Jersey, Inc.

New Line of Plastic Overcaps

A new line of plastic aerosol overcaps, suitable for stacking, has been announced by the Walter Frank Organization, Hillside, Ill. The caps are stocked in black and white, with some types also stocked in red, yellow and turquoise. They are available in ribbed, polypropylene, flared, and flared gold-coated.

•

Insect Repellent Formulas

Formulas and procedures for making effective insect repellents in spray forms are being offered by Cowles Chemical Co., Cleveland 3, Ohio. The formulas include "Detamide 95," Cowles' diethytoluamide, regarded by the U.S.D.A. as the most effective general insect repellent available.

"We are seeing exceptional growth in all consumer recreation markets," said Frank F. Black, general manager, chemical division. "While repellents are sharing some of this growth, we see even greater interest which will eventually increase the potential to many times current levels. All indicators point to broad acceptance as convenient, effective repellents."

•

USDA Clears Malathion Label

American Cyanamid Co., New York, has just announced label clearances through USDA for use of premium grade malathion formulations in true aerosols. The approval covers 1, 2 and 4% formulations of the premium grade malathion for control of flies, cockroaches, mosquitoes and other small flying insects, indoors, and in dry milk processing plants to control carpet beetles.

American Cyanamid indicated it thought some 15 formulations containing premium grade malathion will probably be registered next year, in view of the new label clearance.

Technical malathion has been cleared for pressure packaged aerosols for some time. The premium grade malathion is a low odor product, which allows greater use in household pesticides.

N. J. Acts on Advertising

In a move calculated to shore up existing Federal legislation and the work of the Federal Trade Commission, the New Jersey State Legislature has passed a bill to curb fraudulent advertising in that state. Under the provisions of the law, the State Attorney General will have the right to seek injunctions against persons or companies indulging in fraudulent advertising practices.

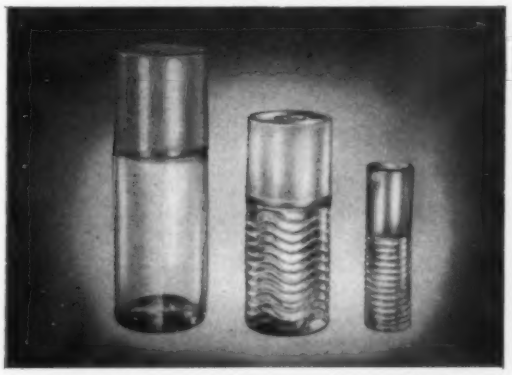
Key provisions of the bill are included in a paragraph which reads as follows:

The act, use or employment by any person of any deception, fraud, false pretense, false promise misrepresentation, or the knowing, concealment, suppression, or omission of any material fact with intent that others rely upon such concealment, suppression or omission, in connection with the sale or advertisement of any merchandise, whether or not any person has in fact been misled, deceived or damaged thereby, is declared to be an unlawful practice; provided, however, that nothing herein contained shall apply to the owner or publisher of newspapers, magazines, publications or printed matter wherein such advertisement appears, or to the owner or operator of a radio or television station which disseminates such advertisement when the owner, publisher or operator has no knowledge of the intent, design or

WAIT before you buy

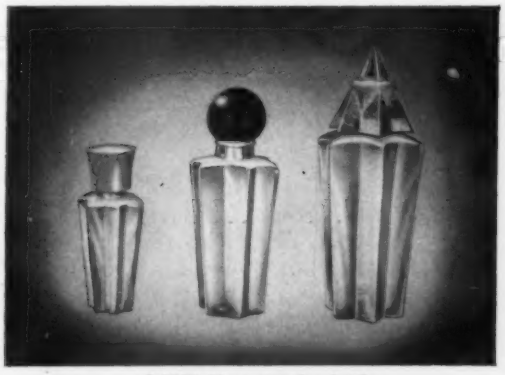
Enhance your product with these distinctive designs.

UNCOATED AEROSOL



A-600 ¼ oz. uncoated glass purse size aerosol bottle.
A-700 1½ oz. uncoated glass aerosol bottle.
A-800 3 oz. uncoated glass aerosol bottle.

STAR BOTTLE



L-1100 ¼ oz. star glass bottle.
L-1200 ½ oz. star glass bottle.
L-1300 1 oz. star glass bottle.

NARVA PRODUCTS CORP., 201 Verona Ave., Newark, N. J.

N.Y.C. WOrth 4-7871 Write or call for samples and prices. HUmboldt 4-2123

purpose of the advertiser; and provided, further, that nothing herein contained shall apply to any advertisement which is subject to and complies with the rules and regulations of, and the statutes administered by the Federal Trade Commission.

•

SCC President Visits Europe

H. J. Amsterdam, president of the American Society of Cosmetic Chemists, left for Europe recently to attend the International Congress of the Society which will hold scientific symposiums in several cities in England, Switzerland, Germany and Spain starting August 31st.

The German Society at Munich will act as host to the various groups in attendance. Mr. Amsterdam is head of the Cosmetic Research and Technical Service Laboratories of International Flavors & Fragrances, Inc. in New York. He will visit the company's plants and laboratories at Zaandam and Hilversum, Holland for two weeks prior to the meetings.

•

L&F Names Two Ad Agencies

Geyer, Morey, Madden & Ballard and the Ted Bates Agency have been named to handle the advertising for the Lehn & Fink Division of Lehn & Fink Products Corp., New York. Bates will handle "Stri-Dex," "Young Look," "Hinds Honey & Almond," and the "Lysette" brands, while Geyer, Morey will handle "Lysol," "Etiquette," and "Medi-Quik" products.

•

Wallace Co. Signs Agreement

The Wallace Co., Bridgeport supplier of aerosol refrigeration and propellant handling equipment and hot water test tanks, has signed an agreement with the LePall Co., Cary, Ill., to act as that company's Eastern sales representatives. LePall makes a line of extendable conveyors.

•

Chemetron Buys Drug Firm

Specific Pharmaceuticals, Inc., New York producer of bulk pharmaceuticals, has been purchased by Chemetron Corp., Chicago manufacturer of synthetic yarns, fabrics and chemicals. Specific Pharmaceuticals manufactures synthetic organic chemicals at a plant in Bayonne, N. J.

Verona Appoints Montgomery

Robert W. Montgomery has joined Verona-Pharma Chemical Corp. as sales manager of its Verona Aromatics Division, producers of aromatic chemicals, perfume specialties, flavors and related products at its Newark, N. J. plant.

Mr. Montgomery, formerly sales manager of Fritzsche Brothers, Inc., has devoted his entire career to the essential oils industry since his discharge from the Naval Air Service 14 years ago. He is well known to the trade.

After more than 40 years in the industry, M. Wellenkamp, former sales manager of the Verona Aromatics Division, has been granted partial retirement upon his own request.

•

Avon Exec's Death a Mystery

William Harth, 40-year-old supervisor of one of the cosmetic laboratories of Avon Products Corp., Suffern, N. Y., died mysteriously last month. State Police investigated after a Rockland County medical examiner reported that Mr. Harth had died from a heavy blow on the face.

Esquire's Aerosols

(*From Page 24*)

would be the only inducement for them to market such a product.

The Esquire brand was born in 1938, when Knomark was founded by Sam and Al Abrams, brothers. From a relatively insignificant position in 1944, Esquire shoe polishes have sky-rocketed to become probably the best selling brand name in the entire country.

In 1957, Revlon, a leading cosmetic marketer, bought the privately-owned corporation, and since that time has operated it as a wholly-owned subsidiary. Mr. Bottner, who was vice president and treasurer, became president in 1958 and since that time has been the driving force behind the company's whole series of new aerosol and non-aerosol products.

Since the introduction of the company's first aerosol product in 1955, Knomark has left its aerosol filling in the hands of two Bridgeport custom fillers, Aerosol Techniques and

Powr-Pak. Valves for the products are made by Precision and Aerosol Research, and caps come from Sterling Seal, Fairfield Plastics, and several other cap makers. Containers are from all three of the major can makers, American Can, Continental, and Crown.

Once an aerosol product is introduced, even if it is successful, after two or three years it usually undergoes complete package redesign by the company's staff of design artists. Mr. Bottner points out that in most cases the various components of the package are successfully integrated into one theme. The more expensive lines, such as "Lady Esquire," and the "Spray Shine" package, utilize such expensive items as full width caps and gold-embossed labels.

Though "Spray Shine" is obviously being groomed to be the large volume "bread and butter" product in the Knomark stable of aerosol products, an obvious strong effort is being made throughout the company to promote the aerosol convenience features of the other 16 products in all the retail outlets.★

Inhalation Therapy

(*From Page* 36)

does possess mechanisms for removing insoluble materials deposited in the alveolar sacs. The question then becomes what is the efficiency of these mechanisms. For instance, carbon particles deposited in the lung from atmospheric air are gradually removed by various types of tissue cells which engulf them and prevent harm. In the case of large quantities of these particles, however, the mechanism breaks down and fibrosis of the tissue frequently results.

If it is determined that a material may be used by inhalation into the lungs, then the next step is to obtain an aerosol of the optimum particle size. As was stated previously, this optimum range is between five and 0.5 microns. And, since dosage is usually of primary concern, then it is absolutely necessary to obtain 100% of the particles within this size range. Larger particles would deposit on mucosal surfaces and be slowly absorbed, while smaller particles would be expelled. The former would defeat the purpose of inhalation therapy, whereas the latter would result in inadequate dosage.

In regard to particle size, two other physiological factors must be mentioned here. First of all, the respiratory system functions as an efficient humidifying mechanism. It is obvious, then, that hygroscopic materials would tend to increase in size when introduced into the lungs. Secondly, if a material capable of causing broncho-constriction were inhaled, then the resulting narrowed lumen of the airways could conceivably reduce the amount of drug reaching the alveolar spaces.

Finally, it should be pointed out that the rapid absorption of materials by the lung depends upon the efficiency of the absorption surface. If the lung is affected by some disease process, then absorptive efficiency is reduced. For example, in pneumonias, up to 75% of the alveolar spaces could be rendered useless for either respiratory or absorptive function. It is necessary to consider the presence of pathological pulmonary conditions when aerosol inhalation therapy is being considered for anything other than its local effects.

The atomizer, nebulizer and vaporizer have been successfully used for many years to produce finely subdivided liquid or solid particles of medicinals for administration by inhalation. By passing a fast moving stream of air over a thin capillary tube immersed in a solution of the medicinal agent, a vacuum is produced. This allows the liquid to rise in the tube and be blown against a baffle which breaks the stream into smaller particles. This is essentially the way an atomizer and nebulizer operate. An atomizer ordinarily produces larger sized particles and these particles are generally too large to be used for inhalation therapy of the lungs. The nebulizer, however, is restricted to a special type of atomizer in which the large particles are re-

NEW COMBINATION
CAPPER
FOR AEROSOLS
BUILDER'S NEW "Combination Drill Press Capper" for Aerosol Bottles and Cans has a Production Rate of approximately 2 per minute with Aerosol Bottles . . . 8 per minute with Aerosol Cans.
BUILDER'S CAPPERS can be used as a DRILL PRESS where Aerosol Production does not employ it Full time. Foot Switch included for use when Capping Bottles.
Bottle Capper (motor used)
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DIMENSIONS:
Base Size: 14x24", Height: 30", 110 Volt AC, ¼ HP Motor
Aerosol Bottle Capper.....$208.00
Can Capping Attachment.....$160.00
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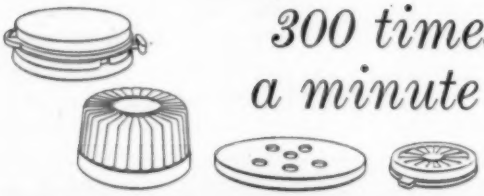
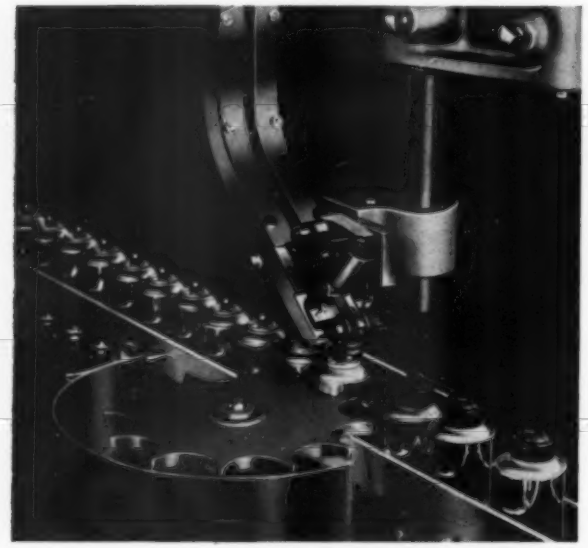
Division of BUILDERS SHEET METAL WORKS, Inc.

The Cap Fits

300 times a minute!





Closeup view of new Sorter Chute and Chute Escapement on H-O-F Capper. It rolls snap-on caps (up to 300 a minute) with perfect fit.

Now you can average up to 300 perfectly snug metal or plastic closures a minute with the Consolidated H-O-F Capper. That means extra profits—quickly!

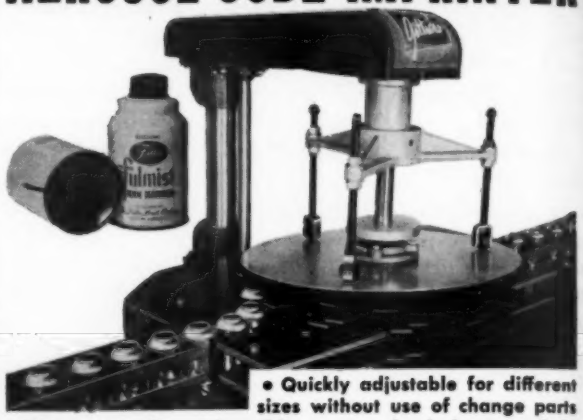
An important feature is the escapement mechanism. It automatically holds back your fitment supply and rolls each fitment on carefully and exactly. No container, no cap device.

The H-O-F Capper complete with chute escapement, is equally fast and efficient with *aerosol* containers, odd or conventionally shaped over-caps. Also adaptable for ointment and shoe polish cans and other types of slip-fit closures. Easy changeover from one size container to another.

Ask our packaging specialists for complete information about the H-O-F Capper and the H-O-FV Valve Applicator for the drug, cosmetic and aerosol fields.
Write sales manager:

CONSOLIDATED PACKAGING MACHINERY CORP.
1400 WEST AVE., BUFFALO 13, N. Y.
A Subsidiary of International Paper Company

New High-speed, Conveyor-line AEROSOL CODE IMPRINTER



- Quickly adjustable for different sizes without use of change parts
- Does not require cutting of line . . . no dead plates needed
- Automatic NO-JAM watchman included with machine
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- Imprints up to 600 cans per minute
- Gives excellent results on flat or recessed concave surfaces
- Simplified 2-roll fast-dry flexographic inking system holds enough ink for round-the-clock operation
- Install it yourself in a few hours

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First and foremost in automatic production-line CODING, MARKING and IMPRINTING machines

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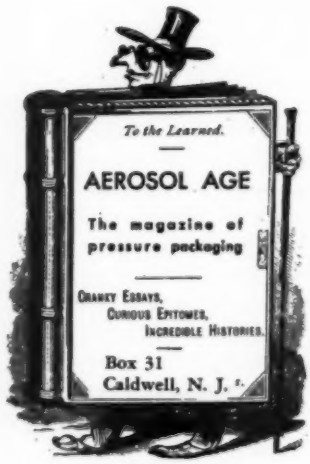

An advertisement in* Aerosol Age *is the surest way yet of reaching everyone of importance in the pressurized packaging industry.

moved by introducing a suitable baffle into the construction of the atomizer. The mist produced in a nebulizer contains practically no particles which will wet a nearby surface. The particles are practically all below five microns in radius. The propellant for both the atomizer and the nebulizer is air, produced by squeezing a rubber bulb.

The vaporizer makes use of steam which is passed over a volatile liquid, causing a conversion from the liquid to the gaseous state. Needless to say, a vaporizer cannot be used for non-volatile substances such as penicillin, epinephrine, etc. and has very little, if any, use in inhalation therepy.

While the nebulizer produces a spray or mist of the desired particle size, it still leaves much to be desired. The nebulizer is bulky, requires cleaning, is not convenient to use, and may cause contamination of the medicinal. There is also present the danger of either over-or undermedication since there is no accurate control of dosage. (Dosage is controlled somewhat by adding a given number of drops of medication to the nebulizer.) However, the nebulizer is still used to a great extent for inhalation therapy, especially in the control of bronchial asthma and other similar conditions. Pencillin and other antibiotics have been administered via inhalation through use of a suitable nebulizer.

Powders can also be administered by inhalation therapy through use of suitable devices. One such device makes use of a metallic ball moving in a narrow tube. The patient inhales, causing the ball to rise and strike a small cartridge containing the finely subdivided powder. A small quantity of powder is released and carried with the inspired air to the throat for local therapy and into the lungs for both local and systemic therapy.

WITH the introduction of liquefied gas aerosols thought was given to the utilization of the "aerosol" principle for the application of medicinal agents by inhalation. Several advantages over the conventional type nebulizers became immediately apparent. The medicinal agent could be mixed with the propellant, thereby forming a self-powered unit capable of producing a spray or mist of the desired particle size. Since the package was sealed, there would be no danger of contamination or decomposition of the medication. If the medication was sterilized and packaged under aseptic conditions, then sterility would be maintained throughout the life of the product. Through use of a metered valve, the dosage could be controlled so that there would be no danger of either under or over medication. Finally the package was of such design as to make it easy and convenient to use by the patient.

There are several ways in which a medicinal can be formulated with a liquefied gas to produce an aerosol. If the medicinal is soluble directly in the propellant, a clear solution is produced. When this solution is dispensed from the container the propellant will vaporize, leaving behind a fine dispersion of the medicinal either as liquid or solid particles depending upon its physical characteristics. Proper choice of propellant, valve and actuator will produce the proper sized particles. However, most medicinals are not soluble directly in the propellant and may be brought into solution by use of a co-solvent. When one considers the number of solvents which are miscible with the propellants and yet are safe to use internally, the problem becomes apparent. There are very few solvents which fall into this category. Ethyl alcohol has been used in a concentration of about 30% as a co-solvent for some medicinal aerosols. The usual advantages and disadvantages of ethyl alcohol are present. Some other solvents which may be useful but have not been fully tested to date are as follows: Polyethylene glycol 200-400, methoxy polyethylene glycol. The toxicity of these compounds must be considered not only when given orally but when given by inhalation as well.. Unfortunately very little, if any, work has been done to investigate this phase of aerosol formulation.

Water is a good solvent for many medicinals, but unfortunately water is

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NO MINIMUM RUN

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PRECISION SCALES

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Ease of operation, speed and rugged construction make them the perfect tool for quality and production control.

Built-in taring device permits easy taring of empty containers.

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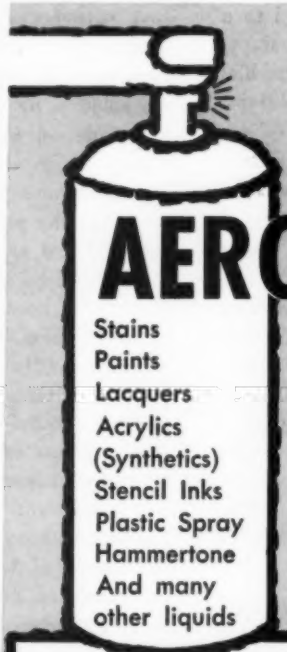

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Stains
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And many
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We excel in research, production and special color matching. We are prepared to handle all runs no matter how large or how small.

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not miscible to any great extent with the propellants. However, it may be possible to formulate a three-phase aerosol using suitable baffles to produce desired particle size. Generally, a three-phase aerosol produces "wet" or "large" size particles, which must be further subdivided before they can be used for inhalation therapy. This type of system would overcome many of the problems dealing with the toxicity of the co-solvent and the propellant.

For those medicinals which are insoluble, or can be made insoluble, in the propellant, a dispersed system aerosol can be used. The powder must be finely subdivided and dispersed throughout the propellant. Suitable dispersing agents are used for this purpose and help to keep the particles in suspension. When the contents are dispensed, the propellant vaporizes, leaving behind the finely subdivided powder which can then be inhaled. This system overcomes the disadvantages of using ethyl alcohol or other co-solvents in the formulation, but presents the added problem of keeping the suspended particles in dispersion so as to give uniform dosage. This can generally be accomplished by shaking the container prior to use.

In order to have the lungs retain a reasonable percentage of particles inspired, it is necessary that the particles remain above a given critical radius, which has been shown to be approximately 0.5 microns. When the medicinals are liquids, the very fine mist of droplets which is formed disappears quite rapidly due to the small size of the droplets. This results in droplets of varying particle size, many of them falling below 0.5 micron. This rapid evaporation is due to the decreased pressure within the respiratory tract making evaporation more rapid. This is important in the aerosolization of epinephrine salt solutions and other similar substances. The particle size can be stabilized by the addition of glycerin, urea, sugar, and some salts. These act by decreasing the vapor pressure of the medicinal solution, thereby decreasing their rate of evaporation. With solid medicinals, such as penicillin and streptomycin, this is not necessary as the particles are stabilized and cannot evaporate.

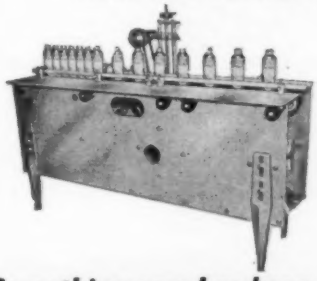
Many medicinal agents lend themselves to administration by inhalation. In fact, any drug given by intravenous injection can, in most cases, be reformulated into a suitable aerosol, provided the drug is capable of being deposited in the respiratory tract and is non-irritating. Such drugs as epinephrine, isoproterenol, octyl nitrite, phenylephrine, and ergotamine have been successfully formulated into liquefied gas aerosols and are used by inhalation. These products have met with a great deal of success and have been readily accepted by both physician and patient. There are many other drugs which can be applied in a similar manner. Penicillin, streptomycin, and other antibiotics are capable of acting locally or systemically depending upon conditions. These antibiotics have proved their efficacy when administered with a nebulizer or other suitable ———. It may be possible to suspend the finely subdivided antibiotics in the liquefied gas. This would have the added advantage of increased stability since no water would be present which would accelerate the decomposition, especially of penicillin. Through use of a co-solvent the antibiotic may be brought into solution with a liquefied gas and administered as liquid particles rather than as solids.

Other drugs which may prove more effective when applied as aerosols than when administered by other means may include antihistamines, antiinfective agents, analgesics, antinauseant drugs, sterols, steroids, antitussive agents, hormones, carditonics, diuretics, and many others. Most of these drugs would require further study before they can be used as a liquefied gas aerosol. However, once their behavior in the liquefied gases is determined (solubility, stability, toxicity, etc.) they would be readily acceptable as aerosols.

Medicinals administered by inhalation would have many advantages

KIWI®

AEROSOL CODE DATING EQUIPMENT
that has *earned* industry acceptance



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With work table area.
For automatic code dating of concave bottoms of aerosol cans.
Will mark top, bottom, or both at the same time.

Something new has been added . . .

CASE CODE DATER
with Kiwi built-in rubber band type.

- No loose type to become lost
- Ink just once per shift
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compared with other routes of administration. Some of the advantages would include the following:

a) Medicinals formerly given as an injection can be given by inhalation, thereby making it more convenient for self-medication by the patient rather than by medically trained personnel.

b) Response to drugs when administered by inhalation is prompt; faster in onset of activity as compared with drugs given orally and with most drugs approaches intravenous therapy in rapidity of action.

c) Since the drugs are absorbed directly into the blood stream via the lungs, there is no decomposition or loss of drug by the gastrointestinal tract as compared with losses and decomposition of the same drug when given orally.

d) The dangers of giving medicinals by injection (trauma, embolism, sterile abcesses, etc.) are overcome since inhalation therapy would replace an injectable product in most cases.

e) The use of medicinals by inhalation does away with the necessity for elaborate sterile preparations which are necessary for parenteral administration.★

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Canadian Chem. Specialties Mfrs. List Program Outline

TWO FORUMS on aerosols, one in conjunction with a forum on automotive products, will highlight the pressurized packaging part of the program as the Canadian Manufacturers of Chemical Specialties Association holds its third annual meeting and conference at the Queen Elizabeth Hotel, Montreal, Oct. 24-26. A number of U. S. aerosol experts are expected to participate in the forum discussions.

Tariffs, always a key issue at Canadian chemical meetings, will be the subject of one special panel on Tuesday, Oct. 25. Heading the panel will be J. A. Davis, chairman of the Chemical Industry Tariff Committee, and L. C. Audette, chairman of the Canadian Government Tariff Board.

The program outline is as follows:

MONDAY, OCT. 24th
- 9:30 a.m. Meeting of the Board of Directors
- 2:30 p.m. Division Meetings to suggest programs for the ensuing year
- 7:30 p.m. Association hospitality suite reception

TUESDAY, OCT. 25th
- 9:30 a.m. Annual Meeting
- 10:30 a.m. Panel on Tariffs followed by a question and answer period
  The Panel:
  J. A. Davis, Chairman, Chemical Industry Tariff Committe
  L. C. Audette, Chairman, Canadian Government Tariff Board
- 12:15 p.m. Luncheon — Speaker:
  Herbert H. Lank, president, DuPont of Canada Ltd.
- 2:15 p.m. Panel on Pesticides
  Forum on Waxes and Floor Finishes
- 3:45 p.m. Forum on Aerosols and Automotives
  Forum on Soaps & Detergents and Disinfectants & Sanitizers
- 6:00 p.m. Open House reception

WEDNESDAY, OCT. 26th
- 10:00 p.m. Panel on Marketing
- 12:30 p.m. Luncheon — Speaker to be announced
- 2:15 p.m. Forum on Soaps & Detergents and Disinfectants & Sanitizers
  Forum on Aerosols
- 3:45 p.m. Forum on Waxes and Floor Finishes and Automotives
- 6:00 p.m. Cocktail Party
- 7:00 p.m. Banquet and Floor Show (speaker to be announced)

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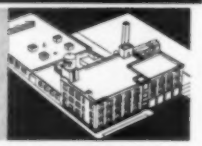

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Propellant Toxicity

(*From Page 27*)

lightly brush aside the possibility of serious exposure, it is our firm belief that the hazard connected with the use of the flourinated hydrocarbons as refrigerants or propellants is *extremely slight*. This belief is supported by 28 years of experience in the manufacture and application of the "Freon" compounds and the following considerations:

1. *Warning Agents*—Halogen acids are formed in higher concentrations than phosgene and provide a warning that decomposition is occurring and make it very difficult for a person to stay in an atmosphere where they are present.

2. *Concentration*—Only the fluorinated hydrocarbon compound which comes in direct contact with the flame or heated surface will be decomposed. In most cases, only a very small part of the fluorinated hydrocarbon compound, which may be present in a room, will have such exposure and be decomposed.

3. *Air Circulation*—In a normal house, the air will be completely changed in periods ranging from one-half to about two hours. Following is an example of how the air changes:

Air Changes in a Typical Room[10]

No. of Sides of Room Having Windows	*No. Air Changes Per Hour*
0	½
1	¾
2	1½
3	2
4	2

As a further aid in estimating the concentration of fluorinated hydrocarbon product which might be present, the data in Table IV are shown.

Comments on the Article in Question

A typical discharge of aerosol insecticide might release about one

TABLE V: Volume Concentration of Fluorinated Hydrocarbon Compounds in Air Related to Weight
Based on 1,000 cu. ft. of air
Temperature: 75°F
Pressure: 1 atmosphere = 14.7 psia

Lbs. of Fluorinated Hydrocarbon Compound	*Volume Percent of "Freon" Compound in Air*			
	Propellant 11	*Propellant* 12	*Propellant* 22	*Propellant* 114
0.05	0.014	0.016	0.022	0.001
0.1	0.027	0.032	0.044	0.022
0.2	0.054	0.064	0.088	0.044
0.5	0.14	0.16	0.22	0.11
1	0.27	0.32	0.44	0.22
2	0.54	0.64	0.88	0.44
5	1.4	1.6	2.2	0.88

ounce (28 grams) of propellant 12 into the air, with a resulting concentration (in a room containing 1000 cubic feet of air) of about 0.02% propellant 12 by volume.

In the medical case described in the Norwegian article, the bedroom was sprayed in the afternoon; and presumably the man did not retire until evening. It seems likely that there was an interval of several hours between spraying and retiring. During this time there would have been several complete changes of air in the room.

The concentration of propellant 12 remaining at the time the electric heating element was turned on would be very low and the possible concentration of toxic decomposition products would be too low to be significant.

It seems clear that in this incident propellant 12 and its possible decomposition products are extremely unlikely causes of the death. Several other examples are offered by the author in this article. The case of the refrigeration mechanic mentioned earlier illustrates our belief that when decomposition does occur, the products will serve as a warning agent and that no permanent physiological effect will result. In another case, a refrigeration repairman was exposed to sulfur dioxide and methyl chloride as well as refrigerant 12. Both these gases are considerably *more* toxic than "Freon 12" and any illness resulting from this exposure could hardly be attributed to "Freon 12."

The possibility of decomposition of the fluorinated compounds at high temperatures cannot be ignored and there is no intention to minimize the toxicity of some of the products. On the other hand, the presentation of medical case histories with little evidence and unwarranted conclusions and inferences are misleading to the public. We do not believe that there is sufficient evidence in the case described to implicate propellant 12; statements such as those presented in the article should not be made without greater reliance on facts and available information.★

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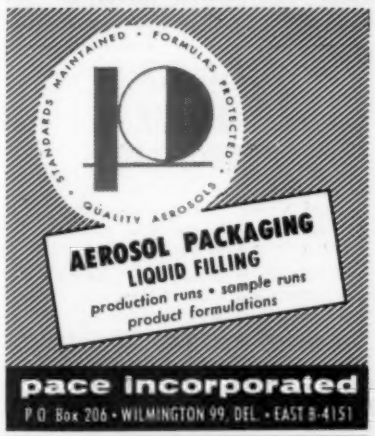

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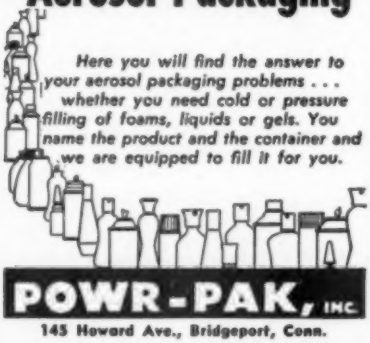

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•

Plant Slated for New Zealand

A new manufacturing plant for Cooper, McDougall and Robertson (N. Z.), Ltd., has been opened at Otahuhu, Auckland, New Zealand, by the company as part of an expansion program which is expected to cost $1 million. Included in the installation are sales and administration offices, factory and a vaccine unit.

Drop Tests

(*From Page* 40)

arithmetic mean height never falls below nine feet and no bottles broke below eight feet.

Earlier drop tests were conducted on nylon bottles. These bottles were filled at 24 p.s.i. at 70° F. No record was kept of the color of containers involved in this test. The fill again was approximately three fluid ounces.

The following were the results:

Drop Temperature	*Arithmetic Mean Height*
70°F	13.95 ft.
100°F	14.70 ft.

Several conclusions can be drawn from these results.

The first is that more than adequate strength *can* be designed into plastic aerosol containers. By the injection molding process, a great degree of control can be exercised over the wall thickness to give the desired strength, and still to use a minimum of materials and weight.

The second is that there is no appreciable difference in strength of these Delrin or nylon aerosol containers at the two temperatures.

All of these containers were "spun welded" together. These results indicate that a two-part container with a welded joint of proper design need cause no concern. ★

Aerosols in Review

(*From Page* 53)

associated with persistent pulmonary disease (one a staphylococcus infection, the other bronchiectasis plus a staphylococcus infection). Both girls were given extensive aerosol neomycin treatments, and in each case shortly after the treatment was stopped it was observed that the patients developed symptoms of deafness. One fairly rapid sympton was degeneration of normal speech into babbling, coupled with pronounced loss of hearing.

•

ABOUT half the aerosol insecticides tested by the British Consumers' Association, Ltd., are judged to carry inadequate directions for

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use, reports the July issue of *Which?* monthly publication of the association. The consumers' group suggested that use directions for this type product should include spraying time in relation to room size, and a prescribed method of directing and holding the container. Another shortcoming, the article suggests, is lack of instructions about sealing of the room and precautions such as removing pets and covering food.

All in all, *Which?* favors aerosols, stating that the best of them combine maximum effectiveness with minimum cost and dosage. Included is a table showing the price, approximate contents, whether instructions are or are not adequate, spraying time, cost and effectiveness of each of 14 brands of British insecticides.

The periodical points out that aerosols should be used sparingly because larger doses, used repeatedly, can irritate the eyes and nose.

•

AEROSOL propellants have become the leading users of fluorinated hydrocarbons, an article in the July 18 issue of *Chemical & Engineering News* declares. Pointing out that aerosols now account for 50% of these chemicals, the article says that the rapid expansion of fluorocarbon production facilities has brought the annual U. S. capacity to 480 million pounds.

"Fluorocarbons propel over 90% of all nonfood aerosols," the article contends, and then erroneously says that shaving cream is one of the products which does *not* use this type of propellant.

Chief intent of the article is a discussion of the many minor uses of the fluorocarbons (plastics, films, elastomers, lubricant solvents, blowing agents, etc.), though the small bit of aerosol data presented (particularly the DuPont charts showing the potential growth of the aerosol market) should prove to be of more than passing interest to the businessman or chemist not versed in aerosol terminology.

•

A GOOD idea of the relative market strength of aerosol sun tan preparations in the British market is given in an article titled "Duel in the Sun," in the July 19 issue of *The Financial Times* of London. For instance, despite the fact they accounted for only 8.7% of the monthly sales total for this product category last April, the higher retail price gave aerosol preparations 24.7% of the total market value.

The report indicates that during 1959's long hot summer the larger druggists "in some cases claimed three weeks' normal sales in a single day during much of July and August."

Giving the value in pounds (1 pound equaling $2.80 in U.S. money), the *Times* article quotes the following monthly sales figures for 1959:

SUNTAN PREPARATION SALES

1959	Total No. Packs	Value	No. Aerosol Packs	% of Total No.	Value Aerosol Packs	% Total Value
July	1,108,600	£213,400	81,600	7.4%	£45,000	21.5%
Aug.	1,007,300	£200,000	87,300	8.7%	£49,300	24.7%
Sept.*	364,300	£ 68,800	25,900	7.1%	£14,500	21.7%

Source: Forecasting (Statistics)
* Includes small stocks left at end of period

BRITISH grocery stores are accounting for a growing share of aerosol product sales, the June 4 issue of *Grocers' Gazette* points out. Led by self-service stores, the article says, the grocery field currently accounts for about 17.5% of the total aerosol market, as against only 2% in 1956. The *Gazette* attributes this gain to the fact that more and more grocers are selling a wider variety of aerosol packages.

The following figures and estimates are quoted:

	U.K Sales	*Grocery Sales*	*Grocery %*
1956	8,000,000	200,000	2
1957	9,500,000	420,000	5
1958	16,000,000	1,000,000	6.25
1959	25,000,000	3,000,000	12
1960 (Estimated)	40,000,000	7,000,000	17.5

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Max Factor Installs Univac

Max Factor & Co., Hollywood, Calif., marketer of cosmetics and toiletries, has just completed the installation of a Remington Rand Univac Solid State 90 computer to aid in billing, accounting, and inventory control. The new computor, which performs up to 705,600 additions and subtractions a minute, will be used to bill thousands of retail accounts, process accounts receivable, perform sales analyses, and aid in scheduling inventory control for more than 600 different products.

On an average day, it was reported, Max Factor processes about 182,000 lines of billing, which will be accomplished in one hour and 45 minutes with the new computor. It comprises a central processor, card reader, read-punch unit, and high-speed printer that prints out 600 lines a minute.

•

Gen. Foods' Murer Dies

Harvey Murer, director of research at the General Foods Corp. research center in Tarrytown, N. Y., last month died of injuries when his car collided with a bus in Western Norway. He joined General Foods in 1941 as head of the Division of Cereal and Dairy Technology. He was a graduate of Washington State College and attended Harvard and Northwestern Universities.

Hermann is Pharmacists' Speaker

Charles A. Hermann, director of the New York office of the Food and Drug Administration, will be the guest speaker at the first fall meeting of the Society of Pharmacists in Industry. His subject will be "Recent Developments in Food and Drug Enforcement. The meeting is scheduled for Tuesday, Sept. 20, at the New York Academy of Sciences.

•

British Aerosol Products Up

British aerosol sales are expected to hit 40 million units in 1960, the *London Evening News* predicted last month. This would be an increase of 60% over the figure of 25 million units recorded for 1959.

Advice to Prospective Marketers

(*From Page* 31)

thinking about entering aerosol production can also use advice, but this type of organization knows this and has sufficient trained staff which can be assigned to seek out and analyze information which it knows will be required before entry into a new area of production. Such organizations have the capacity to do this—this capacity is certainly not a monopoly on the part of the contract filler. To be quite realistic, most integrated companies will consider their own manufacturing facilities whether in the aerosol field or other when they can do the job at a cost lower than that which a contract filler can offer. Cost, however, is an involved concept. To those companies which are primarily sales and promotional and merchandising groups, the greatest cost in entering aerosol production adds greatly to the cost of aerosol production especially when one considers the improved sales potential were this effort concentrated in the sales and merchandising areas.

As mentioned above, the actual cost to the prospective marketer should be the determining factor. Many reasons are given from time to time as to why a company should go into production for itself. These may include improved quality control, better deliveries, etc. But a real analysis of the situation usually shows that *the contract filler spends more for quality control than the marketer would himself* and very frequently will accommodate rough delivery demands to help a customer, demands which would not always be met by a production department within the organization.

Production volume on any aerosol item is obviously an integral factor in the cost of production. Large volume generally means that lines can be kept running at or near capacity, personnel kept down to a minimum, and other general costs of establishing the most efficient production techniques can be spread over a large number of cans and maintained at a reasonable level. However, on any individual item having a limited sales potential many a custom filler has found that because of peculiarities in the specific job, excessive setup costs were required to work out efficient production procedures. Production equipment modification may have been required for this purpose. The job may be handled at a loss, however, basic production equipment innovations and procedural sequences developed in this way may reduce costs on other jobs, thus yielding an overall profit. Such work on the part of the individual marketer with limited sales potential would be very costly and the investment could not be recovered for many years.

Along this general line of thought it is deplorable that those consumers requiring 20,000 to 200,000 aerosols per year become a target of aerosol equipment manufacturers. Organizations falling into this category who enter the aerosol production field will invariably find that their costs are *higher* than charged by the custom filler. Such people may be sold low capacity lines or semi-automatic ones which cannot produce efficiently. In addition, in the low volume area, raw material costs are, in general, significantly higher. Many a prospective marketer has found that his raw material and compounding costs (in the small quantities required) amount to *more* than the finished price of the custom filler. In addition to this unfavorable materials' cost picture, the small and intermediate producer will seldom have the technical staff necessary to produce a consistently good product.

To summarize, a small or intermediate operator cannot economically produce his own requirements and will ordinarily get better quality and deliveries from the contract filler. Larger organizations, which do have the personnel and general capacity of handling a complex production operation, can and should eventually produce a portion of their own requirements. Initial requirements, however, should certainly be entrusted to a competent contract filler, since getting a fair quantity of an item onto the market is the best way of establishing whether or not such item has a real market potential. Only when this is known can a company intelligently evaluate the economics of aerosol production as related to its specific requirements.

•••••••

"Filler will remain important" . . .

By Dr. Winston Reed
President
Reed Research Corp.
Shelton, Conn.

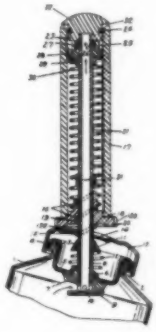
The custom filler is still quite essential to the aerosol business and anyone starting in the business is well advised to use a contract filler. We do not believe that the custom fillers necessarily have the time and facilities for some of the longer range product development. Given a developed product, ready to go, they usually do an excellent job. We are acquainted with the case histories of a number of aerosol products and are familiar with the number of mistakes made by companies who have tried to do it on their own. The experienced custom filler is still, and will remain for some time to come, a very important factor in this industry.★

New Aerosol Patents

Listed below is a brief review of recent patents pertinent to the aerosol and related industries.

Complete copies of these patents may be obtained by writing to the Commissioner of Patents, U. S. Patent Office, Washington 25, D. C., and remitting 25 cents for each copy desired.

2,945,494. PRESSURIZED DOUCHE APPLICATOR. Issued July 19 to Max E. Bowen, 49230 W. 14 Mile Road, Wixom, Mich.



A dispensing applicator and closure mounted on a pressurized container having a tiltable threaded nozzle and valve comprising a tubular barrel of translucent material having a shoulder at its lower end adapted to seat against the top of said container around said nozzle, an internally threaded boss formed on said barrel in the lower end of the barrel and threadedly engaged with the thread on said nozzle, a discharge tube secured to the end of said nozzle and extending through said barrel in spaced relation to the interior of the barrel, a closure cap on the outer end of said tube projecting into the barrel and extending over the outer end of said barrel, the outer end of said tube having a laterally opening hole formed there-through, a flexible valve sleeved over the outer end of said tube and covering said hole, a flexible O-ring on the underside of said cap received in the end of said barrel, an annular piston of deformable material slidably mounted between said barrel and said tube and sealingly engaged with the walls thereof below said hole, said cap having a depending cylindrical flange spaced from said flexible valve and engageable with the center of said piston, and a helical spring disposed around said tube and engaged at its ends between the underside of said piston and the bottom of said barrel, said barrel having visible graduation indicia disposed along its length for measuring the depression of said piston in said barrel.

•

2,943,976. METHOD OF KILLING INSECTS COMPRISING APPLYING NITROPYRIDINE AND NITROPYRIDINE-1-OXIDE. Issued July 5 to Lyle D. Goodhue, Bartlesville; Kenneth E. Cantrel, Dewey, and Anton M. Schnitzer, Bartlesville, Okla., assignor to Phillips Petroleum Co.

A method of killing an insect such as a fly, roach, ant, gnat and mosquito which comprises contacting said insect with an insecticidal amount of an insecticidal compound selected from the group consisting of nitropyridine and nitropyridine-1-oxide substituted on ring carbons with 1 to 2 nitro groups and alkyl groups selected from the group consisting of methyl and ethyl, in which the total carbon atoms in the alkyl groups is not greater than 3.

•

2,946,717. INSECT REPELLENT COMPOSITION AND METHOD FOR REPELLING INSECTS. Issued July 26 to Kenneth E. Cantrel, Bartlesville, Okla., assignor to Phillips Petroleum Co.

An improved insect repellent having enhanced repellency comprising 3-chloropropyl-n-octyl sulfoxide incorporated with a N-alkyl imide of bicyclo-[2.2.1]-5-heptene-2,3-dicarboxylic acid wherein the alkyl substituent of said imide has 1 to 12 carbon atoms.

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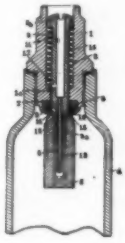
2,944,567. VALVE FOR HIGH-PRESSURE GAS CONTAINER. Issued July 2 to Maurice Jaskarzec, 9 Rue Lucien Sampaix, Paris, France.



Valve system, adapted to be secured to a container filled with a fluid under a relatively high pressure, a relatively moderate output of fluid under reduced pressure, which comprises a hollow body constituting the body of the device and a valve shank formed with an axial outlet passage of relatively small diameter and mounted for sliding movement in an axial bore of said body, said shank extending beyond said bore into a high pressure inlet area, a valve member screwed on the inner end of said valve shank and formed with a blind axial cavity in which extends the corresponding smooth portion of said shank so as to leave between it and the wall an annular chamber of relatively small cross-sectional area, a narrow lateral longitudinal passage formed between the screw-threaded portion of said sliding shank and the tapped portion of said valve member, said narrow passage extending from said annular chamber and opening into the upper face of said valve member, said valve member movable between a valve opening and a valve closing position, an annular sealing gasket retained in an annular groove formed in the lower end portion of said hollow body and seated on said valve member when the latter is in valve closing position, thereby acting jointly as a sealing package around said sliding shank, as a seat for said valve member and, in its valve closing condition, resilient means disposed between said sliding shank and said hollow body for urging said valve member to its valve closing seated position, whereby when said shank is depressed against the resistance of said resilient means and against the fluid pressure acting against the bottom of said valve member, said valve member will be unseated to move into the valve opening position and enable a thin stream of fluid from said high pressure inlet area to flow through said narrow passage in which its output is controlled and its pressure reduced by the resulting throttling action, whereafter said fluid expands slightly in said annular chamber and said end axial cavity of said valve member, and subsequently flows through the axial passage of said sliding valve shank without undergoing any detrimental expansion during the whole of this path, and finally penetrates into said axial outlet passage of said shank.

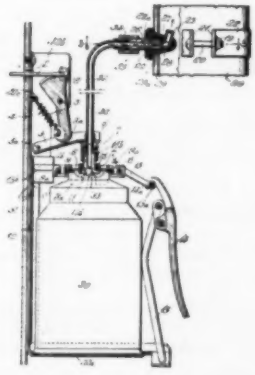
•

2,946,718. SYNERGISTIC INSECTICIDAL COMPOSITION. Issued July 26 to Howard A. Jones and John A. Garmon, Baltimore, Md., and Berton C. Dickinson, Lyndonville, N. Y., assignors to Food Machinery & Chemical Corp., New York.

The method of killing insects which comprises applying to the insects and their habitat a synergistic insecticidal composition comprising O,O-dimethyl S-(1,2-dicarbethoxyethyl) - dithiophosphate and phenyl carbamate, wherein said components are present in the ratio of about two parts of said carbamate per part of said dithiophosphate.

•

2,943,766. SPRAY APPLICATOR SYSTEM FOR INJECTING STARTING FLUID INTO DIESEL AND GASOLINE ENGINES. Issued July 5 to Charles P. Orr, Camden, N. J., assignor to Spray Products Corp., Camden.



Mounting means for a pressurized fluid container of the type containing an annular shoulder disposed concentrically thereabout and a central fluid discharge valve and valve actuator in one end of the container adapted to discharge fluid contents from the pressurized container by the pressure within the container upon actuation of said fluid discharge valve, comprising a support for receiving a pressurized container, a member pivoted on said support and movable to a position engaging the annular shoulder of said container and

the said valve actuator of the pressurized container when the container is mounted in the support, said member including a seal-cap engageable with the annular shoulder of the container, a flexible diaphragm supported by said seal-cap and carrying a nipple discharge member engageable over the discharge valve actuator of the container, a fluid delivery tube connected with said nipple discharge member and displaceable bodily with said nipple discharge member and with the flexing of said diaphragm and the movement of said discharge valve actuator and remote control means for actuating said nipple discharge member for correspondingly actuating said discharge valve actuator and effecting the discharge of the pressurized contents of said container through said fluid delivery tube.

Trade Mark Applications

Applications for registration of the following trademarks were published in recent issues of the *Official Gazette* of the U. S. Patent Office. In not all cases are there strictly aerosol trademarks, however, many of the products listed below come within the category of those for which a possible future use in aerosols is foreseen.

AIR*SAN, for sanitary waste receptacles having an air spraying device in the lid. Filed Aug. 17, 1959, by G. H. Wood and Co., Toronto, Ont., with Canadian registration dated Feb. 5, 1960.

SCAN, for medical spray-on dressings. Filed Jan. 29 by Johnson & Johnson, New Brunswick, N. J., claiming first use Jan. 18.

AEROSOL, for wetting agents for use in reducing the interfacial tension between liquids and solids, or between two immiscible liquids. Filed March 9 by American Cyanamid Co., Portland, Mt., giving first use as Aug. 20, 1937.

SQUERM, for veterinary preparation for topical application, for the control of screw worms on animals. Filed July 14, 1959, by Curts Laboratories, Inc., Kansas City, Kan., reporting first use May 14 of previous year.

HEP, for insecticides, insect killer, bug killer, moth proofer, ant and roach spray, insect repellant and charcoal lighter. Filed Aug. 19, 1958, by B. T. Babbitt, Inc., New York, assignee of Bostwick Laboratories, Inc., Bridgeport, with first use claimed for Jan. 3, 1948, on insecticides.

LITTLE MISS COTY, for toilet water, perfume and other cosmetics. Filed Dec. 24 by Coty, Inc., New York, claiming first use Dec. 16.

INSPIRATION, for perfume. Filed Dec. 14 by Botany Industries, Inc., d.b.a. Rolley Co., South San Francisco, Calif., reporting first use on or about Dec. 1, 1945.

MISS TEEN, for cologne. Filed Nov. 12, 1958, by Daggett & Ramsdell, Inc., New York, giving first use Sept. 3 of same year.

YONDER, for perfumes. Filed May 7, 1959, by Woodlets, Inc., Buffalo, N. Y., with first use claimed for Nov. 14, 1958.

NASALAIRE, for decongestant. Filed Feb. 24 by International Latex Corp., Dover, Del., with first use reported as Jan. 11.

INSTAPAK, for medicinal ointments in a dispensing pressure container for treatment of minor burns and skin irritation. Filed Jan. 18 by White Laboratories, Inc., Kenilworth, N. J., with first use given as Dec. 2.

STERI-TAINER, for medicament—namely, ophtalmic solutions sold in non-refillable containers. Filed May 9, 1958, by Ophtalmos, Inc., Union City, N. J., claiming first use March, 1953.

GY-VAP, for household deodorants. and GY-FER, for rust inhibitors. Both filed Aug. 14, 1959, by Geigy Chemical Corp., Ardsley, N. Y., reporting first use July 28, 1959.

ENCO, for hydrocarbon solvents, rust preventives, corrosion inhibitors and insecticides. Filed Nov. 4 by Penola Oil Co., New York, giving first use as Aug. 28, 1959 (for rust preventives and corrosion inhibitors).

ARCROSS, for fragrance spray for household use. Filed June 11, 1958, by the May Department Stores Co., St. Louis, with first use given as Jan. 5, 1958.

QUAN-SEPT, for disinfectant and germicide for veterinary use. Filed Dec. 11 by American Home Products Corp., New York, assignee of Fort Dodge Laboratories, Inc., Fort Dodge, Iowa, giving first use Nov. 27, 1946.

WOOD FERN, for cologne. Filed Feb. 18 by Helena Rubinstein, Inc., New York, with first use claimed for Oct. 28, ...

TOPTONE, for leather finishes. Filed Feb. 4 by A. E. Staley Manufacturing Co., Decatur, Ill., with first use given as 1940.

DON'T, for anti-thumb sucking and nail biting preparation. Filed March 4 by Commerce Drug Co., Brooklyn, claiming first use May 5.

FAIR AND CLEAR, for medicated cream for treating skin blemishes. Filed Nov. 25 by Yardley of London, Inc., d.b.a. Yardley, Union City, N. J., reporting first use Sept. 4.

ATOM-MIST, for ink antioxidants. Filed Jan. 8 by Grady & Neary Ink Co., Chicago, giving first use as Jan. 31.

CAN'T MISS, for laundry starch marketed in pressure containers. Filed March 15 by Donald E. Lawrence, d.b.a. Can't Miss Co., Montclair, Calif., with first use given as June 24, 1959.

SEPTIDERM and SEPTICORT, both for tropical cream applications useful as a microbicide effective against pyogenic infections, secondarily infected dermatoses and wound infections. Filed Feb. 17, 1959, by Musher Foundation, Inc., New York, claiming first use on or about Jan. 29 of same year.

TAN-O-RAMA, for lotion for producing a tan. Filed Feb. 24 by Tan-O-Rama, Inc., Newark, N. J., reporting first use Jan. 25.

Handelsman is Revlon VP

Revlon, Inc., New York has appointed Milton Handelsman a vice president. He joined Revlon in February, 1959, as executive assistant to the vice president of sales, to whom he continues to report. He previously had been vice president and director of Goldblatt, Inc., department store chain with headquarters in Chicago, where he had been associated for 30 years.

•

Philadelphia Clears Shave Cream

The Law Department of the City of Philadelphia has overturned a ruling by the City Fire Commissioner, Frank L. McNanee, which would have withdrawn from sale Colgate-Palmolive's "Rapid Shave." The product was cited for violating the Fire Code of the city because of its apparent flammability, which stemmed from the fact that butane is its principal propellant. This ruling, issued May 13, said the chief objection of the Philadelphia Fire Department was to the fact that the label on the can did not bear any "flammable" warning.

On June 15 came the latest development. Chief Counsellor Jacob J. Siegal of the City's Law Department ruled that Colgate's product is "exempt from special labeling provisions" under ICC regulations and the Philadelphia City Code. He advised that the Fire Commissioner "withdraw any order given previously which would prohibit the sale of 'Rapid Shave' in Philadelphia."

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Iaci Joins Alcolac Co.

Jack V. Iaci has joined American Alcolac Corp., Baltimore, as a chemical engineer in its production and process development department. A graduate of Rensselaer Polytechnic Institute, he is a member of the American Institute of Chemical Engineers and of the American Chemical Society.

•

Helfrich Laboratories Moves

Helfrich Laboratories of Canada, Ltd., Toronto pharmaceutical marketer, has moved its office and manufacturing to 44 Milne Ave., Scarborough, Ontario.

CLASSIFIED ADVERTISING

Address all classified replies to Box Number c/o *Aerosol Age*, PO Box 31, Caldwell, N. J. Rates for "Help Wanted" advertisements are 20¢ per word; minimum charge $3.00. Rate for individuals seeking employment is 5¢ per word, $1.00 minimum. Advertisements of new machinery, products and services accepted at the rate of $10.00 per column inch. Minimum space, one inch. Copy closing date, 10th of preceding month. *Checks must accompany all orders.*

SITUATIONS WANTED:

EXECUTIVE-SALES-MANAGEMENT

Long-time association with the aerosol and packaging industries on a top executive level. Have administered leading industry accounts in expanding company. Write Box 229, Aerosol Age, P.O. Box 31, Caldwell, N. J.

SUCCESSFUL SALESMAN—sales manager now establishing himself as manufacturers' representative. 10 years aerosol valve and container sales experience; developed new cosmetic, household, pharmaceutical applications. Present location, New England; previous experience Chicago: Seeking valve, miniature container, overcap, related lines, on commission basis. Andy Peasco, 248 Hillside Ave., Naugatuck, Conn.

Sales/Sales Management. Over ten years association with aerosol packaging and chemicals. Well known in industry with best contacts and references. Excellent educational background. Write Box 228, c/o Aerosol Age.

MISCELLANEOUS:

AUTOMATIC HOT WATER BATH wanted. Contact: Zenith Chemical Corp., 175 Mt. Pleasant Avenue, Newark 4, New Jersey. HU 4-8600.

FOR SALE

FOR SALE

The following excess stock of aerosol packaging material:

183,000	Aerosol Cans 211 x 413 (American Can Co.)
263,000	Calmar "O" Type Actuators (Heads)
101,974	Gilbert Plastic No. 400 White Cover Caps
65,000	Sterling Seal Co. 14-1 Overcaps
61,000	Precision Valves—Type 2NN —Double Vinyl Coating—for 211 x 413 cans
61,000	Profax Tubing for 211 x 413 Cans
103,000	Acco Flare Caps

Full specifications on request. Very low prices. Please contact J. L. Hall, Purchasing Dept., Heublein, Inc,. Hartford 1, Conn.

AEROSOL FACTORY WANTED!

One of our clients, a hard-selling, aggressive marketing organization specializing in Paints & Chemicals wants to BUY OUTRIGHT or MERGE with an active, heads-up Aerosol plant located in Northeastern Seaboard area with aim of producing and marketing complete line of aerosol products. Send all replies to:

DANA ASSOCIATES
1234 Broadway, New York 1, N. Y.

COMMON EUROPEAN MARKET

Custom filling of your products available in Germany and Benelux on exclusive contract basis. Competent chemical supervision. We specialize in straight CO_2 pack all types of products including Food and Pharmaceuticals. Marketing assistance available. Please write to Box 229, c/o Aerosol Age.

WANTED: For national distribution — private label aerosols suitable for hospital, first aid and drug trade markets. Mail samples and write to Schuco, 75 Cliff St., New York 38, N. Y.

Export Firm needs aerosol enamels, lacquers, multicolors, detergents, insecticides, agricultural & garden specialties, waxes, and all types of aerosol specialties and products. Write P.O. Box 11, Woolsey Station, Long Island City 5, N. Y.

ATI Readies Starch Effort

Aerosol Techniques, Inc., Bridgeport, last month announced that it has earmarked aerosol starches as a major product effort for 1960-61. According to Samuel Prussin, the company's vice president of new products and sales development, a substantial part of the home laundry starch market, estimated at better than $65 million annually, is headed for the aerosol package.

Mr. Prussin declared that this market "has been recognized for some time, but production difficulties were encountered." He said that these difficulties have been largely resolved, and that aerosol starches may be expected to stimulate new markets (travel, schools, dress shops, etc.) for starches.

Among the requirements of a good working starch, according to Mr. Prussin, are (1) a uniform and well-defined spray pattern; the spray should be controllable to achieve the right amount of crispness, (2) good fabric penetration, (3) texture should be smooth and not grainy, (4) minimal iron drag, (5) no sticking to iron, (6) non-toxic and staple, particularly to the freeze-thaw cycle, (7) economical.

He explained that both types of starch—the natural (or temporary) and the synthetic (or semi-permanent or plastic) are adaptable to aerosol dispensing. "Natural starch," he explained, "comes out with each washing, restarching being necessary each time. Synthetic starch lasts at least 10 washings, but the housewife must keep track of the number of washings. Should she apply the plastic starch before it has been depleted by the washings, there is the risk of too much stiffness. Plastic starch is more prone to clog the valve than natural aerosol starch. It is recommended that regardless of the type of starch, the actuator or button be washed under the tap to eliminate malfunction."

•

MM&R Appoints H. T. Tamillow

Howard T. Tamillow has been appointed to the Midwestern Division staff of Magnus, Mabee & Reynard, Inc., New York producer of perfuming materials and aromatic chemicals. Mr. Tamillow worked for five years as maintenance superintendent of a large retail drug chain and for the next ten years worked on the staff of a large candy manufacturer, serving as production superintendent.

OCTOBER

IS THE

BUYER'S GUIDE

ISSUE OF AEROSOL AGE

- The fourth annual Aerosol Buyer's Guide will be the most complete listing of aerosol suppliers ever compiled — and will be used by industry buyers until October of 1961.

- Make sure your company's products or services are listed in the new Buyer's Guide by writing to our editor today. *All product listings are free.* Advertisers in the Buyer's Guide will receive a bold face listing together with a cross reference to the advertising page number.

- **Here are some of the categories that will be listed in the Buyer's Guide:**

Caps
Containers
Valves
Dip Tubes
Propellants
Equipment
Labels
Insecticides
Aromatics & Perfumes
Pharmaceuticals
Emulsifiers
Deodorants
Lanolin
Custom Fillers (for the trade)
Aerosol Products (filled containers for the trade)
Consultants
Miscellaneous

- Make sure that your company takes the fullest advantage of this year's Buyer's Guide by scheduling a dominant advertisement in the same issue to secure the bold face listing in the directory together with the cross reference to your advertising page. Regular advertising rates!

Make your advertising space reservation early!

AEROSOL AGE

CALDWELL **CApital 6-5520** **NEW JERSEY**

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Wachs Tours Pyrethrum Area

A two-month tour of Africa's pyrethrum growing regions was recently completed by Dr. Herman Wachs, research scientist for Fairfield Chemicals, Food Machinery & Chemicals Corp., New York. Dr. Wachs is the developer of the synergist, piperonyl butoxide. This chemical, when combined with the extract of pyrethrum flowers produces Pyrenone, an insecticide based widely used in home, industrial and agricultural insecticides throughout the world.

Pyrethrum flowers rank as one of Africa's major money crops. The three prime growing areas of Kenya, Tanganyika and the Congo supply approximately 90% of the United States' pyrethrum requirements. Accompanied by his wife, Dr. Wachs traveled extensively throughout the growing regions followed by stops in Israel, Greece, Italy, Germany and England. African pyrethrum farms, he noted, range from typical pioneering enterprises hewn from rugged, uncultivated terrain to large pyrethrum plantations.

OVER THE TRANSOM

SHOULD a new cosmetic product be introduced in a spectacular, costly campaign aimed at quick domination of the market, or should it be introduced quietly in test markets, with distribution and advertising stepped up as it becomes popular? According to the Aug. 17 advertising column in *The New York Times*, this basic dispute about which constitutes the sound marketing approach was the reason for the sudden departure of George Abrams (former Revlon v. p.) from his post as president of the Hudnut-DuBarry Division of Warner Lambert Pharmaceutical Co. The column suggests that perhaps Warner-Lambert's principal interest was in a "softer" approach (for its cosmetic as well as drug items) and that Mr. Abrams' desire for a more resounding promotional campaign may have brought him right smack against a set company policy.

* * *

Jack Jecker, former Kartridg-Pak regional salesman, has established a sales and service agency for present and future aerosol packagers in the West Coast area. His new agency, called "Aerosol Equipment Services", is located at 1017 Chevy Chase Drive, Anaheim, Calif.

* * *

Although trends are as difficult to pin down in the aerosol industry as in any other, there appears to be a readily discernable trend toward introduction of the purse-size container for hair sprays. Led by Revlon and Breck, most of the major marketers of this product have such a package in either the development or planning stages.

* * *

Frank Steckhan (of Boyle-Midway) last month walked off with the high gross honors(??) at the Aerosol Industry Invitational Golf Tournament with a paltry 146. John de Elorza, 1959 winner with a resounding 181, would have waltzed in this year but he became arm-weary after ten holes. However, there were several non-players on the terrace throughout the afternoon (including an editor of this magazine) who would have given both Frank and John some real competition in this category.

"You and your damned fancy propellants!"

Sharp-eyed television viewers of the Democratic and Republican Conventions in July probably saw at least one indication that aerosols have reached quite far politically. During the demonstrations after the nominations of Kennedy, Johnson, Nixon and Goldwater (as well as during the other smaller demonstrations), aerosol foghorns were much in evidence. Their high-pitched blasts, especially noticeable during the Goldwater nomination celebration, provided easily the loudest noise of the conventions.

* * *

A cold, damp summer in Europe this year can be expected to wreak havoc with at least one aerosol product type. Aerosol suntan preparations, far more popular there than in the United States, in 1959's long, hot summer sold exceptionally well. This year, the market will most likely experience a real slump.

* * *

The CSMA Aerosol Division's Program Committee, ably led by Joe Tomlinson (of General Chemical) has the makings of an excellent program for the Hollywood Beach meeting in December. The one four-hour session will be divided between management topics (materials handling, equipment leasing, etc.) and quality control (of components and finished products).

* * *

Frank Zumbro, who has handled the aerosol publicity for Du Pont's "Freon" Products Division for many years, has been moved upstairs to a sales promotion post for the same division. Tom Spackman will henceforth handle "Freon" public relations.

* * *

As has been mentioned in this column at least once before, the British firms appear to be substantially ahead of those in the U. S. in development of aerosol veterinary products. The two latest, both from Boots Drug, are "Pedrite," a spray to control footrot in sheep, and "Poultry Mite Killer," a Sevin-based product which, it is claimed, can "eliminate even a serious infestation of a poultry house with red mite within 24 hours at less than a farthing a bird."

...and then some!

50,000 square feet, as a matter of fact, in which to meet your liquid or aerosol filling requirements. Besides ample facilities for handling your bulk ingredients, we have extensive warehousing space for the storage of your products after packaging. When shipments are to be made, our personnel and equipment are ready to move large or small orders in a hurry... and of course, we're always glad to handle drop shipping. Direct railroad sidings and truck service at our door permits our plant to serve as your warehouse... a central distributing point... saving you time... and money.

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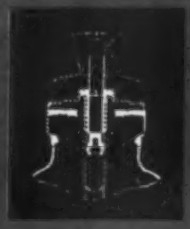
The Risdon MAGNA-METER Valve

A large capacity metering valve for dispensing pre-measured amounts from fractional to multiple cc quantities in spray, liquid or foam form.

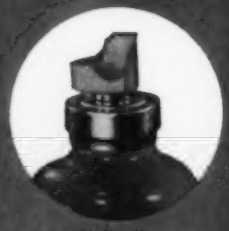


The Risdon METERED SPRAY Valve

Delivers a pre-measured spray of duration determined by packager. Actuator must be released and pressed again for subsequent measured spray.

The Risdon GB Valve

A non-metallic valve for glass, plastic and small metal containers. No spring. No metal in contact with contents. No danger of corrosion or contamination.



The Risdon 5210 Valve

For metal containers. One basic valve — five models with special actuator to suit specific function. Suitable for both refrigeration and pressure filling.

The Risdon MICRO-MIST Valve

Any Risdon valve becomes a "Micro-Mist" valve when fitted with Risdon's patented Micro-Mist mechanical break-up actuator. Enables valve to dispense 3-phase products or give super-spray performance on 2-phase and ultra-low pressure products. Increases formulation latitude and economy.

- Dispense an extensive variety of formulations including propellant emulsions or dispersions • certain types of powders • water-base products • 2-phase, 3-phase & ultra-low pressure products.
- Dispense products in spray, liquid or foam form.
- Applied to glass, plastic and metal containers.
- Dispense pre-measured dosages or unmeasured amounts.
- Available with special applicator-actuators to suit the product.

Contact Risdon for further information, samples and prices.

Valves shown are covered by Patents or Patents Pend.

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AEROSOL DIVISION

Naugatuck, Conn.

RI-114

Risdon valves can be fitted with special actuator-applicators such as shown.